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The
Anthropological History
of Europe

The Rhind Lectureship in Archaeology.

The
Anthropological History
of Europe

Being the Rhind Lectures for 1891

REVISED TO DATE

BY

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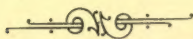
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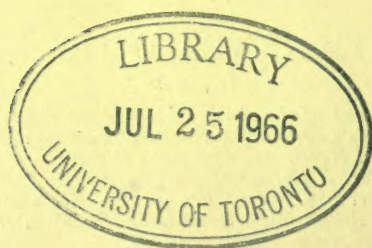


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PREFACE.

THIS new edition of *The Anthropological History of Europe* seems to be called for not only by the exhaustion of the earlier one, but by the lapse of time (twenty years) since the delivery of the Rhind Lectures of 1891, during which period the limits of what may fairly be termed history have been pushed back in some parts of Europe by hundreds or even thousands of years, and the views I originally expressed on some parts of the subject have either been confirmed or rendered more problematical. I have endeavoured therefore to bring the volume up to date, but have avoided entering on the discussion of such subjects as pygmies and steatopygous men in Europe, of which we as yet know little, and which must as yet be excluded from the domain of history.

J. B.

BRADFORD-ON-AVON,
June, 1911.

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LECTURE I.

THE ARYAN QUESTION AND THAT OF VARIATION OF TYPE.

History of the Aryan Question—Latham and European origin—Ujfalvy's discovery of the Galchas—The Scandinavian and Lithuanian heresies—The Variation Question—Extreme views—Monogenism and Polygenism—Supposed modifying influences—Climate and environment—Conjugal selection—Dwindling of military and governing castes—Effects of food and drink.

IN accordance with the will of my valued and lamented friend the founder of the Rhind Lectureship, I am taking for my subject the anthropology of ancient Europe and its connection with that of modern Europe, and especially of our own country; including the descent and connections or relations of physical types. If from these we can deduce anything as to the laws which govern the changes that have taken place in these types, or as to the causes of their development, so much the better. I scarcely hope to do that; but I may perhaps be able at least to place some of the problems of anthropology before you.

Now, these are of course many; but there are two which above all others are at present constant subjects of debate; and one of them is what may be shortly denoted as the Aryan Question, while the

other is the question of the degree of permanence of types, of the stability or permanence of form and colour, of the influence upon physical character of media, of surroundings and external agencies, whether directly or by way of natural selection.

The Aryan question was originally a philological one: it was philological discovery that gave it birth—the discovery of Sanskrit and Zend, and of their relation to the principal European languages—and while everybody devoutly believed in the powerful and rapid influence of media, and was not particularly curious as to the mode of working of these media, while everybody thought that negroes were black because the sun had burned them so, and nobody troubled his own head about the form of the heads of other folk, there was no difficulty in believing that all people who spoke Aryan (or Indo-German) languages were of one blood.

Then came the knowledge of the Indian and Persian sacred books, of how the Veda introduced the white-complexioned friends of Indra from the north-west, and how the Vendidad brought the noble Aryan from a cold country, where there were only two months of summer, and which apparently lay closer to Sogdiana and Bactria, to the Jaxartes and the Oxus, than to any other part of ancient Iran. And so it was that the Roof of the World, the tableland of Pamir, and the valleys that seamed its skirts, came to be looked on as the cradle of the Aryan race.

I believe it was my old friend, Dr. Robert Gordon Latham, who was the first to rebel against this doc-

trine. He was the father of many paradoxes, most of which perished still-born or in their cradles; but this one, though ill received at first in the land of its birth, throve wonderfully in Germany, where philologists found arguments in its favour more cogent perhaps than those of its parent, whose chief point indeed was the simple one that, whereas there were far more Aryan-speaking men in Europe than in Asia, the *onus probandi* lay on those who would derive the greater from the less, rather than the less from the greater. The same kind of argument might have been used to derive the Jews from Poland, or the British people from the United States, or rather from North America, or the Portuguese from Brazil.


Other and important elements and considerations have since been introduced into the question, or recognized as bearing upon it. Many of these are philological: much, as you are aware, is deduced from study of the words which are common to all or most of the Indo-German languages, and may therefore be supposed to have belonged to the original Aryan tongue. On this part of the subject I am quite incompetent to enlarge; but I would like to take the opportunity of expressing some doubt whether sufficient notice is taken of the easy transference of meaning, in the words which are used for the purpose of this line of argument, which may considerably affect their value. Thus the Latin *æs*, brass, appears to be identical with the German *eisen*, iron. Geiger drew attention to this ease of transference; but, however well known,

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it seems sometimes to be forgotten or underestimated.

The investigation, by a distinguished Hungarian traveller, of the Galchas, the race who inhabit Karategin, Durwaz, Shignan, Wakhan, the elevated valleys of the Oxus and the Zerafshan, which constitute precisely the cradle of the Aryan race, according to those who cling to the earlier theory, has also given some of us new lights on the subject. For whereas we northern Europeans have most of us long-oval or oblong heads, and the same is the case with high-caste Hindus, who, by the original hypothesis, were our near kinsfolk; we were accustomed to assume, that we were the genuine descendants of the potentially gifted Aryan; while the anthropologists of the central latitudes of Europe, including the great Broca himself, having heads whose breadth was greater than four-fifths of their length, sat contentedly under the imputation of belonging to an inferior race, which, among other benefits, had received from us at least the rudiments of their admirable languages. For had not Broca himself shewn, pretty conclusively, that head-form was a vastly more permanent characteristic of race than language?

Wood, and I believe Burnes, and perhaps one or two Russian travellers, had indeed penetrated the inmost recesses of Pamir, but Ujfalvy was the first to submit a competent number of the Galchas to scientific investigation. And in his hands they turned out to be a sturdy, thick-set, short-headed population, dark-haired on the whole and hazel-eyed, though including a certain proportion of



blonds, and on the whole yielding, to the callipers and measuring tape, figures not unlike what may be gotten in Auvergne, or in the Alpine valleys of Savoy or Piedmont.

Now these Galchas, with their neighbours the Badakshani (lying south of them between the Oxus and the Hindu Kush, and reported to resemble them), have apparently the best title to represent our Aryan ancestors, if those ancestors are really to be sought in Asia. It would be natural for the surplus population of these valleys to overflow into Sogdiana and Bactria, as it is represented in the Vendidad to have done.

It is true, on the other hand, that the tribes which occupy the secluded valleys south of the crest of the Hindu Kush seem to differ physically from the Galchas. But not only the geographical position of these tribes, the Kafirs or Siah-Posh Kafirs, the Chitralis (who seem to be Islamized Kafirs), the people of Hunza-Nagar, the Dards, whom we know to have occupied, by the unmistakable name of Daradræ, the same position since the dawn of geography; not only their position, but whatever we know of them, seems to indicate that they bear the same relation to the Hindus that the Galchas bear to the Persians; that if the Galchas are the rearguard of the old Persian migration, these Kafirs and Dards are the rearguard of the Aryo-Hindu migration.

Our information regarding the physical characters of these southern tribes is not so comprehensive as might be wished, but here also Ujfalvy has helped

us; and it is satisfactory that they have been examined by the very man who knows most about their analogues, the Galchas. Ujfalvy confirms what little other information we have about their crania. They are generally long-headed, the average cranial index or proportion of breadth to length being about 75, or nearly identical with the average in our own country. It may be worth mentioning, however, that the one Siah-Posh Kafir who has ever visited England, and whom through the courtesy of Professor Leitner I had the opportunity of examining, was an exception to the rule; he had a short, square head, and altogether more resembled the Galchas, as they are described.

There are evidently great varieties of complexion among these people. Bellew says some Kafirs are very dark and others very fair. Sir C. Robertson says most Kafirs are about the same complexion as Punjabis. Ujfalvy met with some blonds; and so did Leitner in Dardistan, and Hayward also: but the first named observer finally concluded that the cradle of the blonds, the fountain-head of the fair races, is not to be found either north or south of the Hindu Kush.

Obviously, with facts like these among the bases of argument, a great number of views about Aryan origins are possible, even after excluding any which might start with a denial of there having ever been a time when the speakers of the primitive Aryan language "dwelt together under one roof," or at least in the same horde.

Thus, firstly, the starting-point may have been

in the land of the Galchas; the first offswarm may have been that of the ancestors of the European nations, the second that of the ancestors of the high-caste Hindus, the residue being the parents of the Persians and their kindred tribes, the Kurds, Afghans, Ossetes of the Caucasus, etc. This may be said to be the orthodox view, of which Professor Müller was the great champion, but it has long been losing ground. Those who still adhere to it must entertain strong opinions as to the easy mutability of language, the readiness of one tribe or nation to accept and acquire the language of another; or they must believe in the powerful and rapid action of media, of external agencies, upon national physique; or, still better, they must combine both these ways of thinking.

A sub-variety of this first species, held by some who have formed a low estimate of the power of external agencies, and particularly by some French anthropologists, is this—that the brachycephalic or broad-headed folk of Central Europe, that is, of the central zone in latitude, which includes most of the great mountain-chains—the Cevennes, the Alps, the Black Forest, the Vosges, the Carpathians and Pindus, with the regions adjacent—that all these are descended from Asiatic ancestors of a common stock with the Galchas, that they brought the Aryan language into Europe, and communicated it to the northern and southern Europeans. This opinion is based upon the resemblance between the Galchas and the Auvergnats, for example, which certainly does appear very close.

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Next comes the great modern heresy, already mentioned, which derives the Aryan languages of Asia in their two great branches, the Iranian and the Indian, from Europe. It has gained ground very much of late years, and may now perhaps be said to hold the field. Few, however, of those who hold it make any endeavour to account for the colonization of Asia, the difficulty of doing which is very great. There are two principal sub-varieties of this theory, one of which supposes the primitive Aryan language to have originated somewhere in that central region of Europe which I have just now been defining, while the other assigns the credit of having given it birth to the northern zone, and to the blond, dolichocephalic (long-headed) family, of which the Scandinavians furnish the best types. The arguments in favour of these two varieties of opinion may be found respectively in two books of small dimensions, and in our own language—that of Canon Isaac Taylor, who champions the Central or Alpine brachycephals, and that of Professor Rendell, who takes up the cause of our own northern long-heads.

There are anthropologists in Germany, however—as Poesche and Fligier, for example—who would trace the patriarchal Aryan to his lair in the marshes of Lithuania, rather than to the valleys of the Alps or the forests of Sweden. The alleged nearer relation of Sanskrit to Lithuanic than to any other European language, furnishes them with one argument; another, which may or may not be relevant, is that Lithuania has some title to be considered the

cradle of the blonds—of this, more hereafter; a third is, or might be, the geographical position of the country, which, before the Slavonic Russians pushed north-eastwards across the Dnieper, may have had an uninterrupted plain, totally unoccupied so far as Aryan-speaking men were concerned, extending all the way from their frontier to that of the Galchas or their kindred in Turkestan.

In the next place we must consider briefly the great question of transformation or of variability of type. Time was when no one had any doubt about the powerful influence of external agencies, nor any about their operating in the most direct way. They saw, as we see, that they do affect the individual both physically and morally, that the sun tans or freckles the complexion of a blond, developing pigment either over the whole exposed surface or merely in spots, and that it darkens or yellows the skin of a brunette. They saw, or thought they saw, that the vigorous, energetic European grew languid and indolent in the tropics; nay, moreover, that his children born there did not grow up equal to their father in energy and spirit. So long ago as the period of the Crusades, the Syrian Creoles, the Syrian-born children of the Frank soldiers, were complimented with the name of *Pulleins* (*Pullani*), because they were supposed to be chicken-hearted. The Castilian said the grass of Valencia was water, and its men were women, blaming the climate in both cases. The Negro, then, was black because the sun had burnt him, and his father before him: the Red Indian was red, or

rather brown, because for generations his ancestors had been exposed to sun and wind without, and to dirt and smoke within, their wigwams. Thomas Price, one of the first men to observe and note differences of physical character in our own islands, ascribed the dark hue of the iris, which he found to prevail in some districts, to the use of coal-fires; while others, with more apparent probability, ascribed the prognathous features of certain of the Irish peasantry, either to the influence of misery and starvation, or to the continual exercise of the jaws upon large quantities of half-boiled potatoes "with the bones in them." You will recollect that eloquent description of them, often quoted for political purposes—"Five feet two inches on an average, pot-bellied, abortively featured, these spectres of a people that once were able-bodied and comely," etc., etc. Montesquieu in France, and Falconer, and, more recently, Buckle, have probably been the best expositors of this view of the subject. Some of their ideas as to the influence of external agencies on the individual were deserving of respect and consideration; but as a rule they quite ignored the great principles of heredity.

New lights began to play upon the subject from the speculations of Oken and Lamarck and our own Robert Chambers; until finally the full blaze of the great idea of variation of type through natural selection was turned upon it by Darwin and Wallace. Its development checked a current of thought which had meanwhile been in process of growth among the anthropologists, more especially

those of France, who a generation ago were the undisputed leaders in their own science. The old idea, derived from the usual interpretation of the Old Testament, had been that all mankind were undoubtedly descended from a single pair, and must therefore have been capable of rapid or even sudden variations of type, in order to the production of the numerous and widely different varieties which we now see scattered over the world. The gradual admission of the claims of geology within the circle of orthodox opinion, only lessened the difficulties of this view, by greatly and indefinitely extending the period available for these variations. But now began a reaction. The French Egyptologists proclaimed that numerous types of man were to be found portrayed in the ancient wall-paintings, identical with those at present existing, and quite as sharply discriminated; and they began to ask why—if 5000 years had done nothing to bring about physical changes in man—why should 50,000 years be supposed to have done so much? Nott and Gliddon in America, in the Southern States of the American Union, animated obviously and naturally by political feeling, urged this question in reference to the supposed eternal gulf that divided the white man from the black; and their arguments were relied on by Southern politicians. Boudin and Broca, in France, took up the subject of hereditary stature. There is perhaps no physical character which might, *à priori*, be expected to vary more easily under the operations of different conditions of life, and more especially of differences in


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the nature and relative abundance of nutriment. Boudin, however, maintained that where large masses of population were considered, the scarcity or abundance of food could not be shown to have any influence; and Broca shewed that in France stature was an attribute of race, that tall stature coincided in locality with a fair complexion, a long head, a certain form of nose, and a tendency to suffer from decayed teeth and certain other infirmities.

Some of those anthropologists who built upon Broca's facts carried out their deductions into the region of paradox. Blumenbach and his successors had acknowledged three, or at most five, great varieties of the human species: there was *Homo Sapiens albus europæus*, the white man of Europe and Western Asia; *Homo Sapiens flavus asiaticus*, the yellow or Mongolian man; *Homo Sapiens niger africanus*, the negro, then in process of detection elsewhere than in Africa; to these others added *Homo Sapiens ruber americanus*, the Red Indian, whom Blumenbach had made a sub-variety of the Mongolian; and the Malay, also nearer to the Mongolian than to either of the other two original varieties, was by some added as a fifth. Next the Hottentot and the Austral Negro put in their claims for separation. Then Huxley divided the dark whites from the blond whites, *i.e.*, for example, the Spaniards and Berbers from the Swedes. And the last and best classification that I have seen, that of Deniker of Paris, admits thirteen divisions, one of which is entirely constituted by the Aino, the

hairy men of Yesso and Saghalien, some of whose blood enters into the composition of the Japanese.

Deniker of course does not claim a separate origin for all his thirteen varieties of man; he simply means that they are all well-defined, recognizable, and practically permanent in the absence of crossing. Few, if any, now contend for the separate origin of more than two, or three at the most. But it was otherwise not so long ago. In evidence let me cite a particular case. At the foot of the Himalayas extends a long narrow belt of intensely malarious forest called the Terai. So pestilential is the Terai that it used to be said it was death for a European to sleep within its limits, or to traverse them by night; and it was almost equally deadly to even the neighbouring tribes. But there is a race of people called the Bodo, who inhabit this otherwise deserted swamp, and defy its deadly malaria with impunity. They were first described, I believe, by Mr. Bryan Hodgson, who wrote a valuable work on them, and on some other sub-Himalayan tribes. Their civilization of course is low, but their Mongoloid heads and features present scarcely any peculiarities, when compared with those of the Lepchas or other hill-tribes of the Himalaya; the physiognomy may differ a little, but nothing comes out in the measurements. Now Barnard Davis, the "doyen" of British anthropologists in his day, was well-acquainted with the Bodo, so far as he could be without personally interviewing them. And his opinion was that the Bodo were an entirely distinct variety of man, who



derived their singular immunity from fever from their having been created or developed *in situ*.

Since that time opinions have grown to be a little less extreme; the polygenists, the advocates of plurality of origin, have ceased, as I said just now, to require more than two or three starting-points for our species, and have begun to attach more or less importance to the various possible modifying agencies; while the monogenists are more ready to acknowledge the feebleness of the direct action of climate, food, etc., and the slowness of the changes produced in other ways. Before these parties can come to anything like an agreement, it will be necessary for the biologist to settle a great question which lies behind or at the bottom of all these disputes—that of the descent by inheritance of acquired characters.

I will now proceed to enumerate a few of the supposed modifying influences:—

First comes the direct influence of climate, of sunshine, temperature, moisture, malaria.¹ Of this we now hear comparatively little, though there is more evidence of the deteriorative effect of malaria on physical type than is generally known.

Secondly, the doubtlessly powerful influence of natural selection, of which new modes of working are continually being found out or suspected. Hereunder, for example, comes the most plausible

¹ With the progress of microscopic pathology, the domain of true malaria is constantly being circumscribed, and may perhaps be ultimately annihilated. But I use the term for the sake of convenience.

theory ever yet brought forward to account for the origin of the blond complexion, that of Mr. Buchan of Toronto, who, choosing Southern Scandinavia as its most probable birthplace, shows how a fine transparent skin might give its owner a slight advantage in a somewhat cool and damp climate which it would not have elsewhere, and which indeed might be positively detrimental in a hot country, especially where the air is also dry. Looking at this theory with historical side-lights and qualifications, and taking note of the slowness with which so slight an advantage might be expected to make itself felt, there seems very little to object to it, except the description given by the Chinese annalists of the Woo-Sun, and other green-eyed, red-haired tribes who once inhabited Central Asia. And this objection may be somewhat weakened if we accept the opinions of many geologists as to the recent existence of a great West-Asiatic Sea, of which the Euxine, the Caspian and the Aral are the dwindling remains, and which would have caused the climate of that region to be much damper than it now is.

Malaria evidently works much by natural selection. In New Orleans, for example, the fair races of Northern Europe, including our own, are said to suffer most from yellow fever, and the negroes least; while the dark races of Southern Europe, Huxley's *Melanochroi*, occupy an intermediate position, the French moreover standing worse than the more southern Spaniards, Portuguese and Italians. It would probably be impossible for the Anglo-

American permanently to hold his ground in New Orleans, without the presence of the other races whom he utilises; and if he does succeed in doing so, it is likely that the blonds may in course of time almost entirely disappear from his ranks. Their only hope seems to lie in the total abolition of so-called malarial fevers, but experience at Havana seems to indicate that this is not impossible.

It is my opinion, though I cannot prove it, that a process of selection, which may perhaps be called natural, works against the perpetuation of certain types in our cities. Tall, rapidly-developing children, and especially those of fair complexion, have seemed to me less able to thrive without fresh air and abundant food than others. And tall striplings are more apt to suffer from consumption than short, stocky, slowly-developing young men. Since this was written, Dr. Shrubsall has collected much evidence on this subject, shewing, for example, that the blonds are more apt to be cut off by scarletina and acute rheumatism. These may be among the causes of the lower stature of our town artisans and labourers, as compared with the professional and well-to-do classes. This difference, as you are probably aware, is pretty considerable. Roberts and Rawson, summing up the wide field of induction yielded by the schedules of the British Association Committee, found it to amount to quite two inches; and I myself found nearly that difference between the average stature of an upper-class company and of some artisan companies in the Bristol Volunteer Rifle Corps.

Sir James Simpson pointed out, a good many years ago, that nature had placed a barrier in the way of the too great development of the human brain, so that infants with very large heads usually perished at their entry into the world. And I am pretty certain that in this matter nature favours the dolichocephals, the long-headed, rather than the broad-headed type. This conclusion I arrived at many years ago, at a time when the great Maternity Hospital of Vienna afforded me much material for observation. ✓

It is commonly believed, and Alfred Wallace, in particular among naturalists, has insisted upon the consideration, that whereas natural selection operated very strongly in early stages of society in the direction of physical improvement, by the elimination of the smaller and weaker individuals, civilization has now put an end to, or at least greatly restricted, its action. There is, of course, a considerable amount of truth in this doctrine; but if one particular form of selection, that which may be styled selection by combat, is no longer largely operative, there are other forms of it, whether rightly to be called "natural" or not we need not discuss, which are still at work among us, and some of which may conceivably be altering our physical type.

Conjugal selection is one of these. Francis Galton has pointed out that the slackening or positive arrest of intellectual progress during the Middle Ages was due in some measure to the fact that men who had more brain than muscle naturally gravitated toward

the monasteries, and being there shut up, and prohibited from marriage, did not reproduce their kind, while the sturdy blockheads who remained outside the convent walls did do so. The anthropologist in this country has great difficulty in obtaining facilities for measuring mediæval skulls: popular and even clerical prejudices on the subject are a serious obstacle;¹ but I have always taken advantage of any such opportunities; and I have been struck with the fine frontal development of some monkish skulls, while those of persons supposed to have belonged to the mediæval chivalry were often small and poorly developed. This observation evidently corroborates Galton's idea.

The possible effect in this case would be an alteration in the dimensions of the skull, particularly in the frontal region. But it is quite conceivable that the prevailing complexion or colour of hair and eyes might be altered in this kind of way. Fashions change in regard to the popularity of colours; and they differ in different countries. Red hair furnishes the best instance. Red-haired persons do not now constitute the majority in any tribe or nation, not even among the Voguls and Votiaks of the Uralian region; but there is some reason for thinking that red hair was once much more prevalent than now. In most parts of India it hardly occurs

¹The late Dean Macneil of Ripon buried, unmeasured and unchronicled, a most valuable collection of mediæval bones, which had occupied the crypt of the minster for centuries before he came to disturb it.

among the Brahmins;¹ yet it is pretty certain that it once did, else why were Brahmins forbidden, as it is said they were, by the laws of Manu, to marry red-haired women. Blonds and red-haired persons do still occur about the Hindu Kush, among the tribes from whom the Brahmins are supposed to have been emigrants; and from that fact, as well as from the existence of the law, we may conclude that they continued to appear, in small numbers doubtless, among the Brahmins domiciled in India, and that no unfavourable action of climate had extinguished them. But obedience to the law in question would certainly in the course of time annihilate the tendency to their production.

In Germany the colour seems to have been unpopular for ages, curiously enough, as it belonged more particularly to the nobles and freemen, who were of true Germanic blood. Red-haired men are, and have long been, known as "foxes" among the peasantry. So far as we can trust the descriptions left us by classical writers—I confess I do *not* trust them implicitly—the Germans were once as pre-vaillingly red-haired as we know, on surer grounds, they were long-headed; but at present red hair is not very common among them, and when it occurs it is not like the brilliant Highland red that we are familiar with. May not fashion, operating through

¹ I have learned from Dr. Burgess that a small tribe of Brahmins exists somewhere to the south of Bombay among whom red or light hair is not uncommon.

conjugal selection, have had something to do with its diminution.

In Britain there have been changes in fashion with regard to its estimation, and during the present generation the æsthetic revival, bringing to bear the pretty persistent admiration of it expressed by artists and poets, have rendered it highly popular, at least among the upper classes. So it was during most of the sixteenth century; for I believe it was flattery in Holbein that led to its appearing so frequently on his canvas; and we may apply the same test which convicts the golden-haired beauties of Venice in the palmy days of her artists; we may examine comparatively the portraits of the *men* of the same date, when we shall find no such preponderance of auburn and golden hues as in the other sex.

Some years ago I endeavoured to investigate this question of the possible influence of conjugal selection on colour, and the ultimate result to which I came, from the observation of nearly 600 women, was that among the labouring classes of Bristol fewer of the red-haired and of the black-haired women entered into matrimony than of the fair, brown, or dark-brown. I do not think the basis was broad enough to sustain much weight of induction; but, as I have stated elsewhere, if the case were really as my figures seemed to show, and if the same condition of things were to endure for a few generations, the discouragement of the production of hair pigment would be so great that we should have a general prevalance of dull shades of

brown, to the confusion and despair of poets and artists.

It is very difficult to estimate or analyse at all satisfactorily the power which different marriage-rates may have upon the reproduction of different elements of population. That it may be very great has been shown by Francis Galton, in his *Record of Family Faculties*, where, taking two populations of equal number, in one of which the women are supposed to marry at the age of 20, and the other at 29, all other things being equal, he calculates that in 324 years the former group will have increased from 100 to 535, while the latter will have decreased from 100 to 23. "The general result," says he, "is that the group B gradually disappears, and the group A more than supplants it."

Of course the matter is not quite so simple as it appears in Galton's statement; there are considerations, for example, as to the relative mortality of children, of premature, of mature, and of too late marriages, which cannot be very accurately weighed, and which are here put aside; but there can be no doubt of the substantial truth of the conclusion, that in a few hundred years the community A would be a good many times more numerous than the community B, which latter would be well on its way towards extinction.

Yet the disadvantage at which community B is placed, in this imaginary comparison, is probably not so great as that at which some sections or classes in a nation are frequently placed in relation to the rest. Let us allow that in the days of

long-period military service the enlisted men were physically above the average in stature and vigour. I conjecture that such was really the case while the standard for recruits was high, and when the Scottish Highlanders and the south-country and Irish peasantry were still enlisting. It is clear that these men, as a class, could not have reproduced the species to any great extent; such of them as escaped all the dangers of a soldier's career returned home comparatively late in life, and would be in a worse position in this respect by far than Galton's community B. And inasmuch as they were so, the general physical standard of the next generation would, we conclude, be slightly lowered. It *was* lowered in France by Napoleon's wars.

But soldiers are not the only class in which the relative frequency of marriage is lessened, and the average age at marriage raised, by the circumstances of their profession. In this country, and at the present time, this applies more or less to the whole of the upper middle classes, the best educated portion of the community, who will therefore contribute far less than their share to the mass of the coming generation.

In most countries, and at most periods, the influence of caste-division has made itself felt in this direction. To some races, reduction to slavery has been merely a deferred death-sentence; thus nations perished, after passing through the status of slavery, during the expansion of the Roman power; and the Indians of the Antilles withered away under the Spanish tyranny. The freemen of

ancient Greece seem to have multiplied their noble type of man at a very rapid rate; and their civilization was based upon slavery. But the rule is that a governing caste multiplies far less freely than a subordinate one. There are several obvious causes for this. The prudential check tells more on those who have something to lose, than on those who have nothing.

Thus, in the old border ballad, Sir James Murray is quite willing to risk his life by rising in arms against the King:

“The king has gifted my lands langsyne;
It canna be nae waur with me!”

while Andrew Murray, the more prosperous member of the family, takes a more anxious view—

“Judge gif it stands na hard wi’ me
To enter against a king wi’ crown,
An’ put my lands in jeopardie?”

Then the ruling or superior caste is usually and naturally the military one, and subject to all the risks of military life.¹ But most important is usually the caste-feeling against giving the daughters of the family to inferiors in rank, even when no other husbands are available. Hence infanticide and nunneries, and gradual decline in numbers of the legitimate members of the caste; while the subordinate castes, wherein marriage is more facile, multiply and rise to power.

¹ “*Rara est in nobilitate senectus*,” is the motto on the fine old monument of the Herberts in Montgomery Church.

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The great expenditure of life among mariners, many of whom perish unmarried at early ages, must at least diminish the rate of increase among maritime communities.

✓ Among people who emigrate from their native country to colonise another and a vacant or a thinly-peopled one, divers and contrary influences seem to work. In the beginning, while there are still difficulties with hostile aborigines, scanty supplies of food, ignorance of the effects of climate, and so forth, there is usually great expenditure of life and little re-production; but as the colony grows and thrives, and receives a sufficient supply of the female element, the birth-rate usually becomes exceedingly high, and multiplication rapid. Perhaps the most conspicuous modern instance of this is to be found in the province of Quebec, where the French Canadians, assisted probably by the cross of Red Indian blood which brings their constitution into better harmony with the climate, have multiplied in a century and a half from a few thousands up to more than a million.

In Australasia, too, as well as in the United States of America, the rate of increase was for a long time exceedingly high, though in both it seems to be now diminishing with the increase of density of population, and of the social difficulties thereby entailed. At the same time the artisan population of the towns seems to contribute the greater proportion of the increase, while among the adventurous pioneers in the back settlements the rate is comparatively low. The relevance of this may not immediately

appear; but it will seem more distinct when I call your attention to the fact that types of men, different physically as well as morally, gravitate towards different lines of life. Thus Calvinistic theology is attractive to the man of melancholic, not to the man of sanguine temperament. Now, these temperaments have respectively their external signs, and do not occur with equal frequency in all races. There are many other factors in the destiny of an individual besides his physical constitution; but nevertheless I believe you will find that an unusual proportion of men with dark straight hair enter the ministry; that the red-whiskered men are apt to be given to sporting and horseflesh; and that tall, vigorous blond long-headed men, lineal descendants of the Vikings, or of the Athelings who "won England, and refused not the hard sword-play," still furnish a large contingent to our travellers and emigrants. We shall see presently that that was the physical type of the Germans who took part in the overthrow of the Roman Empire, and in what their countrymen—it would be a little too bold to say "their descendants"—call the Wandering of Nations (*Völkswanderung*); and it would seem to have been also that of the leaders, at least, of the Gauls, who colonised Galatia and brought home the treasures of Greece and Italy to Toulouse; and it has at present more representatives among the Scandinavians and ourselves than among other peoples. In this way, and by the sparing of the tall youths in the Australian life of open air and abundant food, one might account for the prevalence of

tall, fair types among the colonial-born (the "cornstalks"), a prevalence which is generally asserted, and which accords with my own observation.

The direct influence of the kind or quality of food, apart from its sufficiency or insufficiency in quality, was a favourite point among the philosophers of the last century. The mild Hindu was supposed to owe his postulated mildness to a diet of rice, the Briton his martial ferocity to beef and beer. Some of our modern vegetarians make use of this line of argument. It would be easy, of course, to cite countervailing instances. Thus the peaceful Eskimos are perforce and exclusively eaters of fish and flesh: while the Maoris, the Fijians, the Fans, all ruthless cannibals, were the outcome of generations of habitual vegetarianism. Let us look rather at the physical side, which our high-flown ancestors rather neglected. Can the nature or abundance of food alter the colour or form of the individual? and, if so, can the alterations be transmitted to his descendants?

I have never happened to see this question of colour-change in man by food discussed; though I have little doubt that it has been so. It is confidently stated that the plumage of canaries and some other singing-birds can be considerably altered, in the direction of red or orange, by feeding them with spicy stimulating food, red pepper and the like. Possibly the red colouring matter may be transmitted from the food to the feathers, or perhaps some change in the minute structure of the plumes may be brought about. Anyhow, I am

informed that the beautiful colours of feathers are due more to the lamellar structural arrangement than to a deposit of pigment, which gives most of the colour to human skin and hair. Still, it seems quite possible that the production of pigment might be increased by a diet that mildly stimulated the organs which produce it. It is apparently lessened in wasting disease.

As to form, the probability is certainly greater. Robert Gordon Latham thought that both form and colour might in some degree depend on the geological structure of the habitat, and advised me, when I was collecting the materials for my work on the Stature and Bulk of Man in the British Isles, to pay particular attention to the carboniferous limestone. I was not successful in making out anything like what he expected: in a country like ours, where comparatively little of the food consumed is raised on the spot, the differences between the productions of several geological districts are not so likely to be operative as in other lands; though the absence or abundance of lime and magnesia in the drinking-water might be equally so here as elsewhere. Durand de Gros finds physical differences between the people of the calcareous and the granitic parts of the Rouergue (in the south of France), which he cannot account for by difference of race: the dwellers in the former are, as one would expect, the better developed, while those in the Segalas, the granitic country, are smaller, inferior in form and complexion, less strong but more active. He thinks that he finds a difference

even in the colour of the hair, the Segalas men being the darker; but that may depend on the seizure of the better land by the more vigorous and fairer race.

But may not the superabundance of lime in food and water tell also on the form of the skull? We know that in rickets the deficiency or malassimilation of lime leads, among other consequences, to deformity of the skull in the way of greater roundness. This is due to the thinness of the bones and to defective or postponed ossification of the sutures. On the other hand, *excess* of phosphate of lime in food seems to conduce to good physical development. Thus in Switzerland the most robust men are found in Nidwalden and Ticino, two cantons which agree in only one discoverable point, viz., the great consumption of cheese, the aliment most rich in phosphate of lime. "Then," says Schaaffhausen, "may not a superabundance of phosphate of lime in the food, such as would be apt to occur among a wild uncivilised [hunting and pastoral?] people, lead to premature ossification of the cranial sutures and thus to contraction of breadth and increase of length of skull, which is precisely what we find in the old long-headed denizens of Central Europe." The only objection that I can see is that the Mongols and other races of Central Asia, who live very much in the manner contemplated, feeding on flesh and milk, have not long but broad and round skulls.

LECTURE II.

VARIATION—PRIMEVAL MAN—SUCCESSION OF RACES.

Opinions of contemporary anthropologists—Kollman's five permanent European types—Deniker on importance of hair as a character—Schaaffhausen on inferiority of primitive man and of the longheaded type—Ancient types: the Canstatt: the Cro-magnon: the Eskimo—Neolithic period: brachykephals abroad; none in Britain—Bronze periods—Swarming of successive races: Phœnicians, Greeks, Gauls, Romans, Teutons, Saracens, Slavs, Turco-mongols.

HAVING touched lightly the nature of the agents which may be supposed to influence and alter the physical aspect of mankind, let us now enquire what are the opinions of anthropologists as to their actual potency. These opinions differ very widely. I will indicate what may be considered the extreme views, both held by men of light and leading. Thus, Kollmann of Basel expresses himself to the following effect:—

“Many observations have been made use of as indications of a power in external influences, slow in action indeed, but undeniable; and some have ascribed very great scope to the variability of European types since their appearance at the diluvial period until now. It is, however, questionable whether any kind of modifying changes in the typical peculiarities of the skeleton, or the more prominent bodily features, have really oc-

curred. Their race-characters were in my belief already so settled and confirmed when the European races first arrived here, that they remain constant under the most powerful modifying agencies, and that the whole period which has since elapsed has not been sufficient to produce even moderate changes."

The very considerable differences in physical aspect which we daily observe within the limits of a single nationality are due, in his opinion, to mixture of blood, the actual limits of variation in a pure race being comparatively narrow. He recognizes five separate race-types in Europe, which he discriminates according to the relative lengths and breadths of head and face.¹ Thus one has a long head and a narrow face: this type preponderated greatly in the ancient Germans, and specimens of it are very common in the British Isles. Another has a long head but a broad face, narrow orbits, and a dysharmonic type: this was the old Cro-magnon race of the caves of Perigord, in France. The broad-headed long-faced type is nowadays the prevailing one in the Tyrol and Bavaria proper. The type with both broad head and broad face prevails among the Lapps and in the Caucasus; and wherever Mongoloid tribes have settled in force, as in parts of Eastern Europe.

¹ It may as well be noted here that Anders Retzius, who first divided mankind into longheads and shorheads, dolichocephals and brachycephals, put the limit of the two at a breadth equal to 80 per cent. of the length. Nowadays, those with ratios between 75 and 80 are reckoned as intermediate, those beyond 85 are called hyperbrachycephals, and so forth. The distinction of long and short faces is made on a similar principle, *i.e.*, it depends on the relative, not the absolute, length and breadth of the face.

The mesokephalic (shall we say middle-headed, or having skulls of medium breadth?) with a broad face, occurred among the prehistoric peoples: the well-known skull from the Judge's Cave at Gibraltar may have belonged to it: in the historic period it was common among the Helvetii, and at the present day among the Franconian and Thuringean Germans. But what Kollmann chiefly insists on is, that all these types occurred in Europe at early periods, that even then, every community, so far as we can judge, included representatives of several or all of them, and that such is the case still, the types intertwining like the strands of a rope, but seldom, or with the utmost slowness, mingling like the waters of so many rivers.

De Quatrefages says, "The companions of the Mammoth and Reindeer have not disappeared, they are still among us." Of that I entertain no doubt: I have myself, once and again, encountered in the flesh the man of Neanderthal; but Kollmann goes further: he says—"The European in all his varieties or races is ready and fit for anything, whenever we drag his bones to the daylight from under the earth-crust; he was ready when he kept company with the Mammoth. He had nothing inferior, neither in the build of his braincase, nor in the formation of his face, in itself, but was '*homo sapiens*' in his best form already in the diluvium, then again in the Reindeertide, and in the pile-dwellings. If we are ever to find out anything about the differentiation of man into sub-species and races, we must go further back, perhaps into the Miocene age."

Let me here say, parenthetically, of Kollmann's five types, that though there is much to be said in their favour, they appear to me somewhat too arbitrary in their limitations, and too few in number. Thus we have in Britain, for example, two varieties of his leptoprosopic dolichokephalic (long-headed and long-faced type), discriminated in several points, and particularly, as a rule, in colour: the one is of Anglo-Saxon, the other probably of Iberian origin. Of the colour of prehistoric races we can unfortunately know nothing, except by inference; even of that of early historic ones but little; for hair, though one of the least destructible of animal tissues, is liable, under some circumstances, to post-mortem changes of colour. But as to its importance in classification, let us hear Deniker, a great authority in that department. "On the whole, it seems to us that the measurements of different parts of the body constitute very good characters of the second and third order, we believe we are in the right in maintaining that the characters of the primary divisions (of mankind) ought to be drawn from the nature of the hair and the colour of the skin."

To return. Schaaffhausen, differing from Kollmann, enumerates the various marks of inferiority, the various reminders of simian anatomical features, which he finds among the skulls of primeval men, and more than one of which are apt to be found combined in the early long-headed races. Among these are the receding forehead with swollen eyebrow ridges, as in the Neanderthal and Spy and Brûx men, and the underjaw wanting in chin, as

in the La Naulette specimen. "With a receding forehead are generally associated," he says, "a prominent muzzle, large teeth, high-placed temporal lines, strong occipital ridges, simple sutures, small cranial capacity. In primitive longheads the temporal squama or scale often reaches to the frontal, instead of being separated by the wing of the sphenoid bone; and this often occurs also in African negroes, in Australians, Peruvians, and Mongols; it occurs also in anthropoid apes, except in oranges. Or sometimes, though it does not reach so far, yet it is long and low." Other low characters are, says Schaaffhausen, a short sagittal suture, a narrow, flat frontal: so too the occipital scale standing out like a bowl from the back of the head (baothrokephaly), and the prominent parietal bosses, for these are remains of childish forms. (The bowl-like protuberance, as we shall see, is very characteristic of the Alemannic conquerors of Swabia and Switzerland.) Retzius thought, it is true, that the projecting occiput, being a result of greater development of the posterior lobe, indicated a noble or advanced type; but this Schaaffhausen disputes. Having the greatest breadth in the parietal region is a low feature: this is found in the famous skull of Engis, as well as in Australians. Malay skulls, which belong to a low form of shorthead, have also the greatest breadth near the parietal bosses. A long flat extending from below these bosses to the temples rank low; he means here, apparently, flatness of the temporo-frontal region, which is very general among the Gael, whether Irish or Scottish, and was common

among Romano-Britons, but much less so among the Saxon English and Scandinavians.

Add to these, flatness of the floor of the nostrils, flat nasal bones,¹ large molar teeth, elliptic palate, small occipital tuberosity (for the tuberosity has to do with the erect position). Simplicity of sutures, and early closing thereof, go with low organization: this simplicity was commoner among fossil dogs than among modern house dogs, and it is found in several of the prehistoric long skulls, as those of Engis and Nieder-Ingelheim, and in the *Batavus Genuinus* of Blumenbach.

Schaaffhausen thinks, moreover, that the temporal muscles, and indeed the other cephalic muscles, all work towards lengthening of the skull; and large temporal muscles go with the use of the coarse food of the savage life. Finally, he says that though in some cases the skull may grow large and broad simply from want of lime, the head does acquire that last increase of size and development which corresponds to increase of intelligence, through an enlargement in breadth. Against this I should be disposed to make use of the fact that adult heads are relatively to their length narrower than those of children; but perhaps Schaaffhausen would account for that by muscular action. I will here simply mention some varieties in other parts of the skeleton, which occur frequently or usually in some ancient races, whereas they are now rare. Such are

¹ I think most ancient skulls had good and prominent noses; but the nasal bones are seldom cognizable.

the pilaster-, or columnar-femur, the flattened tibia (platyknemia), the perforation of the lower humerus, forms whose utility has apparently ceased, but which are not necessarily to be called low.

To sum up this view of the transformation question, "Der Mensch," says Buschan, reviewing Schaaffhausen, "ist nichts weniger als ein Dauertypus." Man is in nowise an unchangeable entity.

Before proceeding to divide Europe into great historical provinces, on a basis partly political, partly ethnological, it may be well to give a brief sketch of its general anthropological history, especially of that portion of such history as was prior to the formation of the present divisions and nations.

Our knowledge of this is more advanced as regards the west and south-west, partly because in the quaternary period the north and east were not inhabited, partly because civilization is more advanced and science more cultivated in the west and north-west; and as France, Belgium, and portions of the countries lying next to the east of them, combine both these advantages, it is here that anthropological history may be said to begin, and here only that plausible attempts have been made to minutely subdivide the prehistoric periods, in accordance with their archæological products.

The general results may be thus stated: The oldest human forms that have been found and located geographically, or rather palæontologically, with some approach to certitude, are long-headed—dolichocephalic, and that very distinctly. And we

may go so far as to say that all, or almost all the crania may be distributed under two types, though whether we are entitled to say *two races* is not yet quite clear: the French say so, but Virchow was doubtful. The first of these was the Canstatt type, so called from the place where the first specimen was discovered; though the Neanderthal skull is a much better known example. It is long rather than narrow, deficient in height, with thick bones, huge frowning brows, low forehead and prominent occiput, protruding in the form which the German anatomists call *kügelig* (like a bowl). Some very low-type chinless lower jaws have been ascribed to this type; but the attribution is not always clear: in the modern skulls which have been supposed to reproduce the type the chin is often strong and prominent. Most of these skulls have been found in caves in the mountain limestone; and it may be suggested, that some of their peculiarities may have been connected with too great a supply of calcareous salts, whence perhaps the premature closing (synostosis) of the sagittal suture and the enormous development of the bony browridges.¹

The other long type is that called the Cro-magnon. Here also the head is long, narrow relatively rather than absolutely, moderate in height; the capacity is often large compared with modern averages; the forehead is well developed, but the browridges not so large as in the Canstatt type.

¹ Barnard Davis ascribed most of the peculiarities of the Neanderthal skull to premature synostosis.

The occiput is large and capacious, but has not the marked protuberance just now described. The orbits are squarely formed and low; so that the eyes were probably narrow (as in many Irishmen), the nose of medium breadth (mesorhine). The limbs were robust; but the femur and tibia exhibited the pilastral and platyknemic forms. These men may have been savages; but they were capable savages, at least. The frontal development is distinctively better than in the Canstatt types.

There are probably other quaternary skull forms yet to be discovered. In fact, Professor Testut of Lyons has given us an elaborate memoir on one such, discovered at Chancelade. It belonged to a man of small stature, but it is large and long, differs decidedly from either the Canstatt or the Cro-magnon form, and seems to resemble the well-known Eskimo variety. You may be aware that our own Boyd-Dawkins published, years ago, his conjecture that the Eskimos, or a branch of them, had once dwelt in north-western Europe.

There are others, too, who think there was a chasm, an absolute hiatus, between these palæolithic people and those who followed them; that the former perished utterly or wandered away before the neolithic folk arrived, bringing with them the beginnings of civilisation. I don't think anyone on the Continent now holds that view. Huxley pronounced against it, though not very strongly. For myself, I am not a geologist, and perhaps cannot appreciate the evidence from that side; but I *know* that these old types are repre-

sented among us at the present day, and I *believe* it is by right of heredity. St. Mansuy of Toul, and Kai Lykke, a famous Danish noble, belonged to that of Canstatt, and so, it is said, did King Robert Bruce, though he had good brains as well as thews and sinews.¹ I have seen in the flesh, as I said just now, more than one exquisite example of it; and of the Cro-magnon I have seen a great many, without having gone so far as the Canary Islands to look for them.

“Nor need we blush,” said the noble Broca, “to own for ancestors those rude quaternary hunters who knew how to conquer animals more terrible and more real than the monsters combated by Hercules, and who, first in the world, long before the Assyrians and the Egyptians, lit the torch of art. They knew not electricity nor steam; they were not armed with metallic weapons and with gunpowder; but, weak as they were, and with weapons of stone only, they sustained against nature a struggle that was not without grandeur; and the progress which they realised at the cost of such efforts, prepared the soil on which civilisation was to grow.”

These were the two races, if two they were, to which the great majority of quaternary crania may be referred, and it seems hardly likely, now, that this conclusion will be disturbed, that longheads constituted the chief population of Western Europe in those times. Still, the broadheads, the brachy-

¹ The skull of Bruce has prominent brows and a receding forehead, but its breadth does not consist with the Canstatt type.

kephals, were not unrepresented, at least in the latter part of the period. The palæolithic antiquity of a strongly brachycephalic skull found at Nagy Szap in Hungary, is said to be unimpeachable; and in Belgium, in the reindeer period, those found by Dupont in the neighbourhood of Furfooz are at least on the confines of brachycephaly, and in other respects are of an entirely different type to any of the quaternary long skulls. In Germany, too, brachycephalic skulls are said to have been dug out of the loess.

With the period of recency in geology, and that of polished stone in archæology, we gain a great access of light, and in some countries an abundance of material. Whereas the two principal long-headed types had been scattered here and there, apparently dove-tailing with each other, we now find a central type apparently derived from the Cro-magnon, though softened in its more striking characteristics, predominating in France, probably in Spain, and certainly in Britain, where the principal occupants of the longbarrows nearly always display it. Another, having a relation to that of Canstatt, seems to abound in the more northern countries, in Germany and Sweden and through all the great plain of northern and eastern-central Europe. The brachykephals, whether or not they have received an accession from the east, whether or not it is they who have now brought our domestic animals and cultivated plants from Asia, are certainly much more in evidence; in central France they have contests with the indigenous longheads, over whom

they seem to prevail: there and in Italy they mix with their predecessors; and one may find in one grave skulls with breadth-indices from little over 70 to nearly 90, a thing hardly conceivable in the same race unless from the intervention of disease. In the dolmens of France, in the pile-works or lake villages of Switzerland, in the caves of higher Belgium, in the kitchen-middens and tumuli of Scandinavia, in the Hünnebetten or Giant's Graves of Germany, we find the same admixture, but never in England. Here in Scotland, too, as Sir Daniel Wilson pointed out, the form of long skull, which he called boat-shaped, prevailed pretty exclusively, while the few Irish skulls which may belong to the period are also long, and have the modern Hibernian aspect.

We have seen, then, that history in Europe generally begins comparatively late, in fact only somewhere in the last millennium before our era. For a good many years, of course, we had known that the domain of history, as distinguished from mere tradition and conjecture, extended backwards in Mesopotamia and still more decidedly in Egypt, far beyond what was the case in Europe. Only in the last decade of the nineteenth century did we begin to learn, under the auspices of Petrie and other Egyptologists, that the area of historical daylight might be extended from Egypt and Western Asia over the Egean and its western coasts. Under Schliemann, Homer, from a purely poetical or mythical, assumed a half historic character; and under Arthur Evans and Sayce and quite a crowd of

skilled workers, the prehistoric in Crete is assuming form and solidity. The early observers in this field dealt with ethnography rather than with physical anthropology; but latterly Myers, Duckworth and Hawes have corroborated the conjecture that the early Cretans, the "Minoans," were of what most of us called the Mediterranean type, resembling the early occupants of South Italy and Spain. They seem to have been short of stature, lithe of frame, and dark of complexion, and their heads were distinctly narrow as a rule. It is probable that the same race, pushing northwards, occupied the Peloponnese and other of the more accessible parts of the Balkan peninsula. But before Homer's day these primitive Greeks appear to have been subjected by the Achæans, a militant Aryan-tongued race from the north of Central Europe, at least partly blond, and probably also longheaded. On them followed the Dorians, probably of Illyrian race, and broader in head than the Achæans or their Minoan predecessors. We know that they not only dominated large portions of continental Greece, but also settled in Crete, where the Sphakiots, a tall race inclining to brachycephaly, and occupying the western mountains, claim Dorian descent. Similarly in the eastern horn of Crete a new element coming from Caria or from somewhere in Asia minor where the fundamental breed of man was broadheaded, seems to have altered the original Minoan, Lybian or Mediterranean head in the direction of greater width.

The introduction of Bronze into Europe does not

appear to have been accompanied by that of any new element of population, at all events not on a large scale. The Phœnicians probably settled in small numbers on the coasts where they traded, for example, in Sardinia; but except in Cornwall, where I am inclined to think their type occasionally crops up, it is difficult to distinguish any influence they might have had from that of the later Saracens. The Etruscans had their own skull type, in my opinion more Semitic than aught else; but its influence was, of course, limited to a small area, and belonged rather to a later period. The one country where the age of bronze seems really to have been ushered in by a new race is our own, where barrows or interments that yield objects of bronze, alone or with flint, may be reckoned on, where the bodies have not been cremated, to yield also short broad skulls of a pretty uniform type, almost identical with those which are found, though not exclusively, in certain stone-age interments in Denmark.

When we were children, ancient history was presented to us in very compendious form, that of a succession of Empires pictured in the Book of the Prophet Daniel. And the history of Europe since the Bronze Age might similarly be portrayed as that of the successive swarmings of so many different races, some already domiciled within its bounds, others having their centre of dispersion outside.

Thus the Phœnicians, having served themselves heirs to the maritime power of the Minoans of Crete, explored the coasts, and even settled here and there in small trading colonies, and by the mere

contact of commerce and eastern civilization supplied a motive power to break up the existing equilibrium. The subsequent beginnings of the abortive Carthaginian empire were a further development of Phœnician enterprise, but from what we know of their mode of warfare, their employment of mercenaries, etc., it is not likely that much of their blood was left to run into the veins even of the Sicilians and Sardinians, where, if anywhere, we should seek it. Collignon says he cannot find it in Tunis, where one would perhaps have expected it to be strongest.

Next come the palmy days of the Greeks, even then a mingled strain, of which the ruling element seems to have been longheaded and largely blond, while the subordinate ones may have been dark. I do not quite hold with Ingoldsby—

“These well-booted Greeks,
Their Egyptian descent was a question of weeks,”

but think it likely that the intercourse between Greece and Egypt was not wholly one-sided. An Illyrian element is certain; a Turanian one probable.

The Greeks appear to have been, in their best days, an extremely prolific race, so much so that they were able within a moderate number of generations to Hellenize the coasts of Sicily and Lower Italy (*Magna Græcia*) as well as the Ionian and neighbouring coasts of Asia, and those of Cyrene and of the Cimmerian Bosphorus.

Of the spread of the Kelts we know very much

less: in the first place, we hardly know how to call the wandering mercenary warriors who were the terror of the civilized south; I just now said "Kelts," but will amend the word, and say "Gauls" instead. For at some period unknown the longheads of the north-east would seem to have avenged their long-headed brethren, the men of Cro-magnon and the cavern of L'Homme Mort, and their descendants, by conquering in turn their brachykephalic conquerors. And whereas for a great many centuries the descendants of these brachykephali are known to have been brown of hair and skin, and whereas the Romans describe as blond the Gallic invaders of Italy and even of Galatia; it is perhaps easiest to suppose that they described the military aristocracy or caste, and that these, in distant migrations at least, did not encumber themselves largely with an accompaniment of serfs. Anyhow, the skulls found at the celebrated station of Hallstadt in Southern Austria, the rich concomitants of which are generally believed to indicate a Keltic civilization, and to date from many centuries before Christ—these skulls are long and might be Galatic, Belgic, or even Germanic, say some German authorities. Further down the Danube we find, in Alexander the Great's time, for example, tribes said to be Gaulish and bearing Keltic names, as the Skordiski and Tauriski; and some other tall red-haired warriors further to the north-east, such as the Bastarnæ, though probably German, may have been Galatic. To use an argument frequently employed about the Aryan question, it seems much more easy to derive the

Skordiski and their neighbours from Gaul than the Gauls from them; and then the universal consent of the old historians went that way. It would seem, however, that even before the Gauls occupied or dominated Transalpine Gaul, they were seated in parts of what we now call Germany, and closely in the neighbourhood of some of the true Germans: the reasons for believing this are derived partly from resemblances of language and partly from the minute topography of modern Germany; the ground plan of the ancient Keltic and Germanic village having been different, and this difference having left its mark.

The next great power to rise on the ruins of the Etruscan and Carthaginian, and Greek and Gallic, was, of course, the Roman. I have only to do with the results on physical anthropology, of its conquests and colonisations, but these were no doubt great. The Romans seem to have multiplied enormously during the growth of their power, much as the Greeks had done at the same stage; moreover, their veteran armies, which were employed for colonisation, so far as they were not Roman were at least Italian, until the culmination of their power. The rule is that an anthropological type once in possession of the ground is never wholly dispossessed or extirpated. "They beheaded," said to me the great Broca, "a score or two of the leading men, and called it exterminating a tribe." Still, Cæsar gives us to understand (and he was a more humane conqueror than some of them) that he did his worst towards the destruction of some tribes. Thus, he

says, he sold into slavery the whole survivors of the Veneti; but probably many of these enslaved people would be purchased and retained by the new possessors of the lands; besides, most countries have about them a little of the quality of Lorne, which the Highland freebooter found was "as ill to harry as it was to pike a sheep's neck;" and there is reason to think there are still Veneti in Morbihan.¹

The most important piece of evidence, where-with I am acquainted, to the permanence of Latin colonisation is the following. The Romans are said by Livy to have transported 40,000 Ligurians, with their families into the vacant tracts of Samnium, and to have filled up their places with colonists. Now, the Ligurians were believed, mainly on the authority and evidence of Nicolucci, to have been strongly brachykephalic, as the Piedmontese are to this day; whereas the Romans were mesokephalic as a rule, with indices of breadth below 80, and the modern Roman skulls are just what the old ones were.

But the modern inhabitants of the Ligurian coast, from Savona to Lucca, are mesokephalic, and have narrower heads than any other people in Northern Italy, as Ridolfo Livy has shewn. I can see two other possible explanations of this fact, but the one I have suggested (colonization from Southern or Middle Italy) seems the easiest.

The frequently dark complexions of the inhabitants of the old Roman cities on the Rhine may

¹ Topinard's statistics of colour point that way.

possibly be derived partly from old Italian colonisation. In the later ages of the Roman power, when the soldiery were gathered from all the subject nations fit for service, colonisation meant the mixing of one nationality with another on a very small scale. Minute enquiry might very probably, in some instances, detect permanent results, but I am not aware of any; and where the change was a violent one in respect of climate, such as that from Mauritania or Dalmatia to Britain, the descendants of the colonists may have gradually dwindled away.

The next race to rise into importance was the Teutonic; and its migrations, when it had once begun to overcome the resistance of the Roman Empire, were on an enormous scale, well deserving the name the Germans give to them—the Wandering of the Peoples. Here, again, the pressure of an increasing population had something to do with the movement, yet not everything, for many of the tribes appear to have abandoned their previous territories *en masse*;¹ but Germany was not at that time able to support a very large population. The net result of all the struggles of the fifth and sixth century was greatly to abridge the area occupied by the German language and, probably, the area in which the German physical type, the Graverow type, preponderated. More was abandoned on the east than was gained in the west and south. The Franks were comparatively few in number and

¹ Thus the Angles, according to Bede, and the Saxons who accompanied the Lombards to Italy.

spread over a large area peopled by subject aliens. Nor was the case very much different with the Visigoths and Longobards: the numbers of the former were, I have no doubt, greatly exaggerated, nor do I believe that Lombardy before its conquest by Alboin was so thoroughly depopulated as Ridgeway thinks. Otherwise the Longobards would have retained their language, and a majority, instead of a minority, would have enjoyed the privileges of Longobardic law. The Burgundians may have been a little more numerous in proportion to their subjects; but they were content with one-third of the land, which may fairly be taken as proof that the Galloromans very largely outnumbered them. In the result the Burgundians soon lost their language; their well-defined form of head, which was long, with a breadth index of about 74 or 75, and very similar to that of the Anglo-Saxon, has apparently disappeared, the heads in modern Burgundy and Franche Comté being extremely broad; but their fair complexion is still conspicuous; and whereas Sidonius Apollinaris talked of them as "greasy sevenfoot giants," Franche Comté still supplies the French army with its tallest grenadiers.

But the whole south-western frontier of the German language seems to have been really advanced, the Saxons, Frisians, and Salian Franks having occupied Flanders and Brabant, the Ripuarian Franks the right and left banks of the Middle Rhine and the Moselle, the Alemanni Alsace, Swabia, and after Swabia North-eastern and Central Switzerland, and the Marcomanni (probably)

Bavaria. In all these cases the new acquisitions were conterminous with the old holdings; and in some of them there is more or less reason to think that the invaders re-occupied ground which had been won by the Romans from their own kindred: I have said more or less reason—I should myself say *less* rather than *more*. The result is that Flanders and most of Brabant are thoroughly Germanic—the Electorates (Treves, Cologne, and Mayence) rather less so, at least in their western parts; Alsace, Swabia, Bavaria, and Central Switzerland more German than otherwise in colour, but in headform more Keltic or Rhœtian.

But the greatest of the German conquests, from the racial point of view, was that of our own country (or shall we say of Eastern Britain), which was largely Saxonised in blood as well as in language and social state; while the western parts of the British Isles, including Ireland, have been Saxonised, if at all, more by infection and contact than by change of blood.

As a second wave of Teutonic conquest, we may reckon the Scandinavian, which, however, did not begin until long after the Völkswanderung of the Germans themselves had come to an end. Here, again, the movement must have coincided with a rapid increase of population; but it was too great an effort to continue; and though it did not lead to an actual curtailment of the area of the stock and language as the Völkswanderung did, it ended in such thorough exhaustion of the parent stock that it continued to be of little importance for cen-

turies. Iceland, Shetland, Orkney, Caithness, were all that the movement added to the Scandinavian language area, but in many other parts of these islands it left its mark more or less plainly on the physical type; so it was in the Hebrides, especially in the Lews, in Man, in Cumberland and Westmoreland, and the West Border, very strongly; in Yorkshire, and along the east coast of Scotland, in Lincolnshire, Nottinghamshire, East Norfolk and adjoining districts, perhaps also in Pembrokeshire, certainly about Wexford and Waterford. On the Continent it affected the coast of Normandy, and to a less degree the interior. Collignon even thinks he sees its traces over a large tract of country on and about the Middle Loire; and finally, it is said to be visible in the nobility of Sicily and Southern Italy.

South of the Baltic, too, the Germanic wave of conquest is remarkable in having been double; several centuries after the *Völkswanderung* had ceased, population growing dense, as it seems always to do in the early stages of the civilisation of capable races, the Saxons, Frisians, and even the Flemings, set themselves to reconquer those extensive territories east of the Elbe, the Hartz, the Thuringian mountains, and the Upper Main, which they or their kindred had relinquished long ago to the Wends; and gradually, by force, fraud, commerce, or peaceable colonisation of empty spaces, they re-Germanised pretty thoroughly a large portion of them. The physical type of the tribes they submerged was apparently very like their own, but

we must not forget the possibility that weak and scattered remnants of the Germans had been left behind in the great migration, and lost in the then flowing tide of Slavonism. Buschan tells me he thinks this a probable explanation of the fact that the Cassubians (still Slav in speech), and the other inhabitants of Koslin, the easternmost province of Pomerania, constitute one of the most blond areas of Germany.

Next, after the great or earlier Germanic movement, and previous to that last spoken of, was the spread of Saracenic conquest. The extent of the extreme wave of this is scarcely realised; not only did the Moorish armies penetrate almost to the Loire, but they ascended the Rhone valley, occupied for a long period some of the passes of the high Alps, possessed Sicily, plundered the coasts of Italy, and settled there in small communities. In France, according to Lagneau, they are thought to have settled at Aubusson after their great defeat by Charles Martel, and perhaps made there the first carpet in Europe.¹

The change they wrought in the physique of the Spanish population was probably not very great. The Semitic element in them was not altogether new to the coasts, at least, of Spain, and the Berber element was identical, or nearly so, with the primitive Iberian.

Perhaps the expansion of the Slavs should have been mentioned before that of the Saracens; it

¹ For "Africa begins at the Pyrenees," as Dumas said.

began earlier, but continued longer and later, and, like that of the Germans, after a considerable interruption, in this case owing to the intercalation of the Tartar dominion, it recommenced, to continue almost to our own day. Poland,¹ and the country between the Carpathians and the Dnieper, seem to have been the original occupation of the Slavs; thence, on the westward movement of the Germans, they spread across the Oder and the Elbe and to the mouths of the Vistula; they occupied the vacant Bohemia, and passed over Pannonia and Illyria to the Adriatic, and either by themselves, or under Bulgarian dominion, occupied also more or less completely almost the whole of the Balkan peninsula. By about the ninth century, spreading over or among the Finnish tribes, they had established themselves at Novgorod, long the chief seat of their power and commerce, and had apparently penetrated also to the Oka and the Upper Volga. They were not a military people, but a ruling and fighting case was supplied to them by the Varangans from Scandinavia. Thereafter their northward expansion continued uninterruptedly; that to the south-east, however, was first checked and then completely arrested by the advent and rise to power of successive hordes of Turks, of which the latest included the Mongols of Bātu Khan. Meanwhile the Germans re-occupied, as was just now mentioned, most of the territory which had

¹The Lygii, whom Tacitus describes as Germans, were pretty certainly the Lekhs (Poles). This was one of Latham's happy conjectures.

once been their own ; the settlement of the Magyars, and later the growth of the Roumans, cut off the southern division of the Slavs from the northern, and the former were somewhat circumscribed by the arrival of the Ottomans, and by the revival of the Greeks and Albanians.

The tide of conquest to which I come last, consisted of many waves, one of which, indeed, was coeval with the *Völkwanderung* ; nay, it may be that the very first such wave was much earlier even than that. It is very difficult to say when the first tribe of Turkish race entered Europe. Who or what were the Etruscans, the Agathyrsi, the Kimmerians, the Scythians, the Sarmatians, the Alans ? There is not one of these nations but has been conjectured to be Turkish by some one or other. Were the manners and politics of the Scythians and Sarmatians, which have a very Central-Asian or Turanian look, the product of their life on the grassy steppes of Southern Russia ? or had they brought them ready-made from Turkestan ? We do not know. I will return to the Scythians in a future lecture.

In the latter part of the fourth century appeared the Huns, Mongoloid in type and in mode of life, whatever they were in tongue and in blood. That they had much to do with the inception of the *Völkwanderung* is clear ; the terror of them drove the Visigoths across the Danube, perhaps the Sueves and Alans across the Rhine, nay, possibly, as the Quaens fled before the alarm of the Tartars into Norway, so may the Angles have fled before that of Huns into England. When their power collapsed

they were not extinguished: the next wave of nomads, the Avars, incorporated most of them. The Avars, if not entirely Turkish, were at least Turanian. Then followed the Bulgarians, a Finnish race from the Volga, and settled among and ruled over the Southern Slavs; but some of them wandered as far as South Italy. Next the Hungarians, the Magyars, from the same neighbourhood, but mixed somewhat with Turkish blood, who, settling in Hungary, no doubt incorporated the relics of the Avars. Then the Khazars, Turks of a high type, that is, may be, with an Aryan admixture. Then the Patsinaks, Petchenegs, or Besses, Turks of a lower civilization, who by much etymological torture are found to have given name to Bessarabia. Then the Polovtsi or Khomans, also undoubted Turks, who settled on the Dnieper, so far as nomads could settle; and after them the most terrible of all, the so mis-called Tartars, a mass of broken Turkish tribes with a nucleus of veritable Mongols, who destroyed or incorporated all the earlier Turkish colonists of southern Russia, and, if half that is told of them is to be believed, went nigh to destroying the Russians, Poles, and Hungarians.

With the exception of the Ottoman Turks, who have been a great power in Europe, but scarcely anywhere, except in Eastern Bulgaria, in Thessaly, in some parts of Roumelia, and in a few large towns, a considerable element in the population, and the Gypsies, an Upper Indian tribe of totally different type from the Turks or Finns, in fact more Aryan than aught else, there have been no

more invasions from Asia since that of Bātu Khan ; for Tamerlane's victorious campaigns against Toktamish, Khan of the Golden Horde, and Lord of Russia, were nothing but campaigns, and led to no settlement. The tide has long been running eastward: the Turanian flood has been ebbing; Aryan and Finnish islands have appeared among its receding waves, and have gradually coalesced until only a few pools are left here and there. The Tartars of Kasan and of the Crimea, the few that are left, are the most civilised peasantry in Russia ; and the very fine type of the Roumelian Osmanli is rapidly dwindling away.

LECTURE III.

RUSSIA AND THE BALKAN PENINSULA.

Russia—The Scythians—Spread of the Slavs—Physical characters of the Finns—The Merians—The Mongol invasion—Composition of the modern Russian people—The Lithuanians—Ugrian and Tartar tribes—The ancient occupants of the Balkan peninsula—The Hellenes—Modern descendants of the Thracians and Illyrians.

WE have not much material of very early dates from Russia; the earliest probably comes from the kitchen-middens on the Baltic, whence some every short and broad skulls are reported to have been gotten.

Thus we have in Russia something like the same difficulty that we have in the west. Long-heads—long and very narrow—may have prevailed; but short ones did occur, and were not merely the product of rickets or hydrocephalus, but indicate the existence of a brachykephalic race or race element. Almost all parts of Russia abound with kurgans or tumuli of different kinds, mostly sepulchral. Of these probably the oldest are in the south, and are supposed to belong to the Scythian period. The few skulls got from them are mostly long, but in the rich barrow-tomb of a Scythian king, described by Von Baer, the heads which he took to belong to the ruling race yielded an average index of 81.

The philological evidence is thought to point rather to the Iranian affinity of the Scythians; but the evidence of these skulls, and that given by Hippocrates as to their physique, in conjunction with their character and history, make me think that they were Turanian. And I must plead guilty to the heresy, in spite of Professor Rhys, of believing the Kimmerians, the sons of Gomer, to have been either Kelts or Gauls, not unrelated to the Kymri of Wales and to our own Strath-clyde Welshmen.

The growth of the broad-headed element is shown in the following table by Bogdanof; it relates to the Government of Kiev:—

	Dolicho.	Mesc.	Brachy.
Scytho-Sarmatian Period,	6	1	1
Early Slavish Period, - -	9	2	7
9th to 18th Century, - -	10	6	6

Here the early population, which may have been Finnish, Germanic, Lithuanian, Sarmatic—who can tell?—is replaced by the Slavs with their moderately broad heads; but once established, the Slavish type does not seem to have varied much. The anthropological history of Russia, from, say A.D. 4 or 500 up to 1200, may be summed up thus: 1, Emigration or vanishing of Germanic and Sarmatic tribes, Goths, Alans, perhaps Rhoxalani; 2, Spread of the Slavs from their old centre, supposed to have been Poland, Galicia, Volhynia, over all Western, Central, and North-western Russia, destroying or rather incorporating the numerous Finnish tribes who were their predecessors, or in some instances pushing them out of their old seats; whence, 3rd, Migration

of some of the Finns towards the west, those of the Tavastian section, whose modern descendants are mostly fair and with moderate breadth-indices, moving into Finland to mix with the Swedes, or into Esthonia, whence they expelled the Letts, a Lithuanic, Aryan people—those of the Karelian division, generally darker in hair, and broader in head, also moving westwards, but in the rear of their brethren.

Nothing is more calculated to throw doubt on the extremely high valuation of skull-breadth as an indication of race, than the phenomena of that kind in the Finnish tribes. For there is a certain amount of general physical resemblance among them all: it is not merely that their languages are related; yet nevertheless they vary extremely in index of breadth; thus the Lapps stand at about 84·7 (Hallsten says 86·5, Von der Horck, 86·5), the Chuds at 83·3, the Finns of Karelia about 82, of Tavastland, 80,¹ which is also that of some skulls from ancient Kurgans at Saivatapala; the Esths stand about 78; the Liefs, their nearest kindred, the same; the Vesses, and Vōts, 80, according to Mainow, but Iwanowski makes the heads of the latter rather longer. The same kind of facts are encountered among the Oriental Finns, but the details of these may as well be deferred until after the consideration of the great Tartar invasion, which complicated the anthropology of eastern Russia considerably. The facial physiognomy seems to be more characteristic

¹See Gustav Retzius as to the Finlanders.

than the cranial. The skull usually gives the impression of squareness, whether viewed from above or from behind, but in some tribes, and particularly in the Bulgarians, it may be styled cylindrical. The face is broad in proportion to its length, from the development of the cheekbones; the brows level and but little prominent, the orbital openings wide and low, the eyes narrow and often a little obliquely set, the nose straight or hollow and prominent at the tip if anywhere. These points seem to be common to most if not all of the Finnish or Ugrian tribes; they appear, for example, in the Mordwins, and not unfrequently in the Bulgarians, though these last are much mixed with Turkish as well as still more largely with Slavic blood.

Coloration varies in all these tribes. In the Esthonians proper the hair is said to be generally yellow, or yellowish brown, and straight; this is a race-character. The temperament seems to be a mixture of the lymphatic and melancholic; Von Baer remarks that some are truly melancholic, and that these are apt to have black hair; they are said, accordingly, to be patient, slow to anger, self-restrained, but persevering, and formidable when once roused. All this again seems to be common to almost all the Ugrian race.

The Merians, who of all the greater Ugrian tribes we know, were earliest and most completely Russianized, though I have little doubt that others had disappeared so early that their very names had been lost—the Merians who inhabited the central provinces around Moscow have been minutely

studied as to their ethnology, their arts and modes of life, by Count Uvarof, who opened an immense number of their sepulchral barrows or kurgans. Their name is not mentioned in history later than A.D. 907, and doubtless they were already by that time much mixed with Russians. Many localities retain the names they gave, much, let us say, as localities in Aberdeenshire or Fife retain their old Keltic names; this permanence of names is more likely to occur where the relations between the waxing and the waning race have been friendly on the whole, as was probably the case between the Merians and the Russians. For though the Merians were tall and strong (their stature was from 5ft. 6in. to 5ft. 10in.), they were a pacific people, and though their civilization was by no means of low type, they were poor. They had ornaments of bronze and silver, however, and seem to have acquired pearl, silk, and fine cloth, by trade with the Arabs and Bulgarians. The rite of Sutti, which Ibn Foslan, who travelled among them in 921, and saw the obsequies of a prince, has described, may have belonged to them as well as to the Slavs.

As they were taller than the modern population, so were they longer-headed, with an index of breadth varying a good deal, from 65 upwards, but averaging perhaps 73 or 74, which is less than that of any existing Finnish tribe. Their hair was rather dark than light brown, if we may trust to the colour of such as is found in the graves.

Further north also the process of Russification was always going on. The populations of Novgorod

and Pskov, energized by a cross of Swedish blood through the Varangians, spread their colonies among the Finns of the north as far as Archangel and the Petchora. Howorth thinks the Votiaks or Vod were pushed by them eastwards to their present seats in Viatka, much as the Esths were driven westward (the Letts to this day call the Esths "Iggauns," "the expelled ones").¹ The suggestion that the Vods were the Budini (Vodini), of the Greeks seems inevitable. For the Budini were noted for their red hair, and the modern Votiaks are among the reddest or most rufous of men; they are commonly said to be all redhaired, but Malijew's figures do not bear out this extreme statement. He gives the following percentages—red hair, 11; flaxen, 7; light brown, 15; brown, 29; dark brown, 32; black, 2; grey, 4. But no less than 47 had red beards. They have rather broad heads (79·8), are rather short and thick set (5ft. 4½in.), their eyes are oftener blue or grey than brown. On the whole, except for the comparative deficiency of black hair among them, their colours are not very unlike those of the people of Athol and Mar, where red hair is more abundant than in any other part of Britain.

The Votiaks are not far behind in civilization. They are said to have learned much from the Tartars, but not to have mixed blood with them, though these same irrepressible invaders penetrated

¹ It is said, however, that the Novgorodians found the Votiaks in Viatka in the twelfth century.

even beyond them, to their kindred tribe, the Voguls in the Ural mountains.

The dreadful energy and persistence of these Mongols in their two great invasions of Russia in 1237 and 1239, is as impressive as their atrocious cruelty and destructiveness. Of all the settled portions of the country, only Novgorod and the north-west escaped, owing to a sudden thaw rendering the previously frozen ground absolutely impracticable. City after city was taken, sacked, burned, and its inhabitants massacred; to submit was usually death, to attempt resistance was worse. Reading the story in the pages of Howorth or Karamsin, one compares it with that of Khorassan, which was the richest and most civilized province of Western Asia before the Mongols entered it, but which they left a desolate wilderness, a condition from which it has never fully recovered. But one may better compare the ravages of the Mongols in Russia to those of the Danes in Britain. Though the latter were less destructive, they achieved their success owing very much to the same causes, the greater hardihood of their men, their superiority in weapons and generalship, the subjection of the victims to an emasculating form of religion, and (this was more marked in Russia) the disuse of arms by the inferior classes. If the Scotch had lagged behind in civilization, such as civilization was at the period of our Danish invasions, they were perhaps on that very account better able to resist a barbarian invader than were the Saxon English. To show how great was the fear of the Tartars

even in remote countries, we may quote Gibbon, cited by Howorth, who says that through fear of them the fishermen of Sweden and Frisia failed, in 1238, to attend the herring fishery on the British coast; and that from this cause herrings were dear.

It was not only the Slavic inhabitants of Russia that were swept with the besom of destruction. Bolgari, the old commercial mart of Eastern Russia, the metropolis of Old Bulgaria, the region whence had issued both the Magyars and the Bulgars of the Danube, was utterly destroyed. The people thereabout had probably been a mixture of the two Finnish types already spoken of, of which the one is represented by the Esthonians, the other, darker and with broader head, by the Tchuds; but ancient skulls have been little sought for there. The remnants of the earlier Turkish races in the south were partly incorporated: others, as the Khomans, fled westwards, and were received in Hungary, where their descendants still remain, but do not exhibit their ancient Turkish breadth of head: the cause of the change was probably their long sojourn in Little Russia, where the prehistoric population, from the time of the Scythians, had been mainly long-headed, and may have been incorporated.

The Mongols were of course but a minority, and a rather small minority, in the great Golden Horde, the majority of which was composed of the debris of various Turkish tribes, more or less mixed with those of conquered nations, Persians, Circassians, Alans, and so forth. There was at least one Englishman in Batu Khan's army. The Mongol

and Turkish types are well known, and were probably originally identical or nearly so; but the Turks, lying to the west of the Mongols, came earlier into contact with the Iranian nations, and by mixture with them beautified their own type. The original one, which may be called Turanian, though some anthropologists look on it as an infantine form arrested, is free from most of the points to which Schaaffhausen objects as primitive or savage; it is large and capacious, without large frontal sinuses or protuberant occiput or projecting jaws. As a rule, no doubt these people are of low intellectual power; but some of their early monarchs were able men. There are curious legends about the origin of Jinghiz Khan's family from a supernatural ancestor, who is represented as fair and blue-eyed; but whether this is an astronomical myth, or whether it points to early admixture of the ruling stock with a higher race, I will not hazard an opinion.

The moral qualities of the Mongols are thus summed up by a Persian writer, and could not be better adapted for savage and irregular warfare. "They have," says Vassaf, "the courage of lions, the endurance of dogs, the prudence of cranes, the cunning of foxes, the farsightedness of ravens, the rapacity of wolves, the keenness for fighting of cocks, the tenderness for their offspring of hens (here is one redeeming feature), the wiliness of cats in approaching, and the impetuosity of boars in overthrowing their prey."

During the decline of the power of the Golden

Horde, and after its adherents had been broken up into the three Khanates of the Crimea, of the Nogays and of Kasan, their incursions continued exceedingly destructive. They are even said to have carried off, when they sacked Moscow in 1571, no less than 800,000 captives—a great exaggeration doubtless, but not without some foundation. Great numbers of these must have perished on the journey, but on the whole the Slav element in the south and on the Volga must have been increased in this way; but it is not so clear how it came to pass that the Tartar element was largely imported into Great Russia or Muscovy, which, however, we shall see, was certainly the case.

Since the capture of Kazan and the reduction of the Crimea to a Russian province, only one striking anthropographical change has occurred, viz., the emigration *en masse* of the Kalmuks from the steppes of the Lower Volga into the Chinese empire. By this event, the pure Mongol element in Europe was reduced to small dimensions, and it is said that those who remain have no tendency to increase in numbers.

The modern population of Russia proper is in overwhelming majority Slav, and mostly falls under the great divisions of Great, Little, and White Russians—the Little Russians occupying the regions east and west of the Lower Dnieper, the White Russians the Middle Dnieper and Upper Dwina, the Great Russians the whole north and east; but while the area of the two smaller divisions is uninterrupted, that of the larger is broken, especially

in the east, by the territories of a number of Finnish and Turkish tribes. And the Muscovites themselves must be looked upon as a people who, however pure Slavs they may have been at their starting points, have in the course of their rapid expansion included and assimilated large alien populations similar or identical with those which still remain recognizable, a people, too, whose purity of type must have diminished *pari passu* with their advance, just as the purity of the Saxo-Frisic type in Wessex gradually and visibly lessens as one travels westward from Hampshire or Berkshire, or that of the Anglian type from Berwickshire towards Linlithgow.

The Tartar element in the very purest Great Russians is not a negligible quantity. Several of the names for money, as *altun*, *kopek*, several of those for measures of capacity or weight, as *arshin*, *kile*, *aghash*, the name of their national drink, *kwas*, the names of some court officials, the use of the word "Christian" as a somewhat contemptuous term for the lower classes, and many characteristics in their habits and manners, are Tartar. All these points, it is true, do not prove anything beyond intercourse; but Von Hammer gives a list of 122 Russian families of known Tartar origin. "Among these," says Howorth, "are some of the best known in Russian history." I may quote Glinski, Godunof, Golovin, Dashkof, Narishkin, Opraxin, Rostopchin, Turgenef, Uvarof, the last the name of the nobleman to whom we owe so much in Merian archæology. To the Merians, by

the way, the Russians are thought to owe the so-called Russian bath. Bogdanof thinks that the Mordwins, one of the brachycephalic Finnish tribes, whose remains seem to occur in ancient kurgans, may also have contributed to the formation of the Muscovite type. The portraits of modern Mordwins which he publishes might easily be paralleled in this country, and confirm my belief in the presence in these islands, and particularly in Scotland, of an ancient Finnish element of population.

Be these things as they may, there is sufficient evidence to the existence of a fairly well-defined and permanent Great-Russian type of man. As to its stability, Taranetzky says that, having carefully examined the ancient Slavish skulls disinterred in Novgorod by Von Wolkenstein (which date from the tenth or eleventh century), he is unable to find the least difference between them and those of the present generation, whether in the measurements or the general contour and aspect. The hair, too, seems to have been of the prevalent modern colour, a rather darkish brown.

Taking as a basis the very careful and laborious memoir of Taranetzky, one might say that, in the portion of the country which he deals with, the Great-Russian type was perhaps purest in the governments of Twer, Pskov, and Novgorod, rather less so in those of Kostroma and Yaroslav, of Olonetz and Vologda and St. Petersburg, and least of all in the most remote, Archangel. The stature is rather short: calculating from Anuchin's statistics,

I should say 1,650 millimeters, or 5 feet 5 inches in the adult man. The eyes are small and grey, or sometimes dark; the hair varies through different shades of brown. The skull is fairly capacious, broad (about 81), of good height (about 76), flattened at back and often at the top, and on the whole of form between an ellipse and an oblong (which I take to be what Taranetzky and Bogdanof mean by "biscuit-formed"). This is the Sarmatic form of Von Hölder, and most of the Russians I have seen have exhibited it. It accords well with the somewhat square and massive frame. The frontal sinuses are little developed; the nose is broad and often rather flat; the face not so broad in the pure type as where the Finnish element is strong, but with the same oblong compactness as the skull.

The Little-Russians (Malorussians), every one agrees, are different from the Muscovites in physical and moral characteristics. Inhabiting a much richer soil, they are conspicuously taller than their northern kindred, whose struggle for life is often very hard. "Brunette with black eyes and an oily skin," says Barchewitz, "fond of greasy feeding and of music." Their country has been the camping-ground of so many and so diverse nations and races, that it would be useless to discuss the derivation of their types, which are probably numerous. The White Russians border on the Lithuanians and Poles, and have probably mixed with both, and perhaps the blond element in them has thus been strengthened; but they inhabit the very swampy country about the Dnieper, the Prypek, and the

Beresina, a country where it is said that everything—the vegetation, the cattle, the birds—take on a colourless or pale hue, and where, accordingly, Poesche and his followers conceive that the blond type must have originated.

This speculation, and the closer relation of the Lithuanic language to the Sanskrit than that of any other European tongue, which seems pretty well established, make it extremely desirable, on scientific grounds, that both the Lithuanians and the White Russians should be visited in their own country, and their physical type and archæology investigated by some competent authority. One of the most competent men in Europe, Professor Virchow, once undertook the task, but unfortunately he had to stop at the Prussian frontier, and his results were not conclusive. Other observers have been there, but at present we really know less of the Lithuanians, so far as these matters are concerned, than of many a small tribe ten thousand miles away.

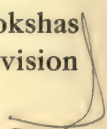
The Letts, it is true, who are the nearest kindred of the Lithuanians, are not quite so unknown. They are a mesokephalic people, that is, their skulls yield a breadth-index of 78. They are of good stature, and of fair complexion, with blue or blue-gray eyes, and flaxen or brown hair, soft and wavy. The old Prussians, of whom a few skulls, belonging, it would seem, to the long Germanic or graverow form, have been measured, were another branch of this stock; their descendants are still long-headed, but apparently less so than the

ancients. These people have undoubtedly been long in contact with the Finns on the north-east, as well as with the Scandio-Germanic people who dwelt in Livonia, Esthonia, and Finnland, before the westward movement of the Finns.

I have yet to speak briefly of most of the non-Aryan tribes of eastern and south-eastern Russia. The Votiaks and Voguls have already been mentioned. Excluding, then, the Russians, the race elements are, first, the Ugrians or Finns, who, notwithstanding the general resemblance already spoken of, vary considerably both as between tribe and tribe, and within the limits of the tribe, in form of head, and still more in colour of the hair and eyes, probably by reason of ancient and partial crossing of blood with Asiatics; and second, the Turks, in some cases crossed with Mongolic blood. The invaders are probably more mixed, on the whole, than the invaded, to judge from the cephalic index.

Thus the Cheremisses have a stature of 5 feet 3·7 inches, and a breadth-index of 76·8, and are, in great proportion, blond; they are the remains of a spirited and once formidable people, who still sacrifice in secret in consecrated woods. The Chuvashes, more Tartarized in blood and language, are a little broader in head; some think them to be Turks Finnized rather than the reverse, but it is more probable that they are the remains of the old Bulgarians.

The Mordwins in two divisions, the Mokshas and the Ertsas, belong to the broad-headed division



of the Finns, and, on the whole, incline to be dark. Their index is variously reckoned, but is well beyond 80.

The Tartars of Kassimov, in Riazan, who are Moslems, do not now mix with their neighbours, but we may conclude that they once did so, for their index of breadth is but 81, and but 15 of 30 had black hair. The Tartars of Kasan, who dwell where once the Bulgarians may have dwelt, and who must have mixed largely with captives from the surrounding tribes, have an index of only 79·2, less than that of the Russians.

We come now to the Bashkirs, the Metcheriaks, and the Teptiars, all undeniable mongrels; they are Finnish tribes which have been so infiltrated with Turk blood that they are now more Turk than Finn, and more Tartar than the Tartars themselves. The Bashkirs are tall, strong, and dark-haired, with but few exceptions; they seem to exhibit a variety of types, the result probably of comparatively recent crossings. Some have the round, large, low heads of the Mongols, others the round, high head, and large, coarse aquiline nose of the high Turkish or Turcoman type; others, again, according to photographs I have seen, exhibit the comparatively prominent occiput, cylindrical head, and retroussé nose of the Bulgarians. Accordingly, some report their breadth-index at 79, more at 81 or 82, Ujfalvy as high as 84.

The Metcheriaks were undoubted Finns from the Metchera, west of the Volga; the Turkish cross

has improved their physique, and they are very fine large men, with the dark complexion and round heads of the Turks.

Further south the Nogays and the remainder of the Kalmuks retain their original Central Asiatic types; the latter, as Metchnikof points out, exhibiting, in their large round heads, short, thick noses, large outstanding ears, short chins, and legs short in comparison to the trunk, the proportions which Quetelet assigns to the children of the highest or so-called Caucasian type of men. To these points he adds the peculiarity of the Mongolian eye (which frequently occurs as a juvenile condition in Western Europe), and the late appearance of the beard.

But the Tartars of the Southern Crimea are a different people. They are settled agricultural folk, but there is no good reason for ascribing any change in their features to that fact.¹ They appear to have absorbed the remains of the Greeks of the Cimmerian Bosphorus, and, what is to us still more interesting, those of the Tetraxite Goths, who are known to have existed hereabout as a distinct tribe as late as the sixteenth century. Busbequius saw one of these people then, who, he says, had the appearance of a Fleming. And I have myself seen, mixing with men whose eyes and complexion betrayed the Mongoloid strain, Tartars whose eyes, hair, complexion, and features would have passed muster among ourselves. It had for me a kind of

¹ The sedentary Bashkirs are said to be more Mongoloid in physique than their nomad kindred.

pathetic interest to look at these men, to recognise their kindly blood, to see in them the descendants of the companions of Kniva and of Hermanric, to know that the nationality they once belonged to had passed away and been forgotten, and that to which they now adhered was in progress to the like extinction.

Of the quarternary and even of the neolithic populations of the Balkan peninsula, so far as I am aware, nothing whatever is known. The earliest period of which we really seem to know anything is that of the Mycenæan civilization, the era of bronze and gold and of Cyclopean constructions, though in Crete the last two decades have enabled us to see farther back into the neolithic age. Evidently Greece was a meeting-ground of several races. The northern portions of the peninsula were in the possession of two of these, the Illyrian and the Thracian, both reputed Arian, though in the case of the former the claim is doubtful: it is not so long since the philologists admitted it: and I do not think the Albanian language, the modern representative of the Illyrian, has even yet been thoroughly analysed. Galen speaks of the Thracians as a fair race: I do not think much, however, of such statements, when used, as he used them, to support a theory. It would be convenient to believe that the Illyrians were short-headed and swarthy, but I know of no evidence from ancient sources on these points. Fligier would deduce most of the old Greek nomenclature from either Myrian or Thracian etymologies, but that there was an

early stratum in the country of people who spoke a Turanian tongue, as argued for by Hyde Clark, I entertain little doubt, and all the less since the identification of the Hittite physiognomy has, coupled with other lines of argument, proved the early presence of Turanians in Asia Minor.

That the Hellenes proper were a race of the type we most of us call the long-headed Aryan, there seems no doubt. Nicollucci found an index of 75·8 in 26 ancient Greeks. The skulls that have come down to us from the classical period are generally long, rather narrow and high; and blond coloration was common and admired among the Greeks, at all events in the early historical period. Both the Achæans and the Dorians were apparently waves of migration from some more northern region. You will remember that almost all of Homer's heroes were xanthous—blond or chestnut haired—Minerva was grey-eyed, but Juno “*βοῶπις*” ox-eyed—probably with dark as well as large eyes. The earlier subject races, Pelasgic or what not, may have been dark—Hector was dark-haired. The doctrine of the temperaments, taken with the physical traits attributed to each of them, indicates that there was much variety of colours among the Greeks of the classic period. Even the Macedonians of Alexander's time, according to Ujfalvy, are portrayed as blond, with long rather low heads—quite a northern type. But later on, in the Roman period, the Greeks in Egypt are all represented with dark eyes and hair.

The Hellenic race was very prolific in its palmy

days, but like all military and exclusive castes it dwindled after a time: the true Spartans, for example, seem to have become almost extinct. Two natives of Sparta, whom I once had an opportunity of examining, might have belonged to some primitive Turanian race. They were tall, strongly built, swarthy and brachykephalic. It must be remembered that there are two distinct tribes in the two mountain ranges of Laconia, the Tzakons in the eastern one, the Mainotes in the prolongation of Taygetus towards Cape Matapan, neither of whom, so far as I am aware, have really been studied. The Tzakons' dialect is said to have Dorian affinities.¹

The history of the Peninsula, in relation to ethnology, is not very complicated. The Kelts in the north disappeared early: some think the northern Croats, who are not so tall or so dark as the southern Croats, are merely Kelts Slavonized, while the southerners are Illyrians. The Thracians lost their nationality and language, and accepted the Latin; the Illyrians, at least the southern portion of them, holding a poorer, more mountainous and difficult country, succeeded in retaining their tongue, of which the Shkipetar (Albanian), is the modern representative. The Latin occupancy probably scarcely affected the blood: the Gothic was transient; but the Slavonic was extensive and permanent, influencing more or less the whole country down to Cape Matapan, and changing the

¹ I once caught and measured a Tzakon. His kephalic index was 82·4, or 80·4, if corrected, for the skull.

language of more than half of it. In the people of Servia and Bosnia, I think the Slav element really preponderates; they are taller and finer men than the Russians, but have the same make of body and often of countenance; and a great many of them have light brown hair and answer to Procopius's often-quoted description of their forefathers. In the Bulgarians, the Finnish or Ugrian element is strong, and there is much Turkish blood, some perhaps brought in with the Ugrian, some, especially in Eastern Bulgaria, by the Ottomans: the Slavs succeeded in giving the language, perhaps more owing to the prestige of religion therewith connected, than to their actual superiority in number; but the "dour," sturdy national character is rather Finn than Slav. As to the skull-form, Kopernitsky says it is neither one nor other; but he had probably in his mind the Finns of Tavastian Finland. The form is long, rather narrow, *cylindrical*, with very regular curves and absence of frontal or parietal bosses. The forehead is remarkably recedent, and the face prognathous, the cheek-bones not particularly wide. This must surely be the true Bulgar type, for it is neither Slavish nor Turkish, nor have we any reason to think it old Thracian. To my eye it resembles that of the Cheremisses. Both Slavish and Turkish types do, however, occur, mixed with the one described; in what proportions we do not yet know, but Pittard has proved their importance. The kephalic index seems to increase as one proceeds westward to Widdin and the Servian frontier.

The Thracians, once thought most populous of nations, cannot of course be extinct. Their debris are to be found among the Roumans or Vlachs. Whether the Transdanubian Roumans, who appear to be on the way to become a considerable nation, have a Thracian nucleus or substratum, or a Dacian one; whether, that is, they are descendants of Trajan's colonists and Romanized Dacians, who remained in the Transsylvanian mountains when Aurelian recalled their fellows across the Danube, or whether, as Fligier and others think, they were Romanized Thracians, who in some time of disturbance, long after Aurelian's day, migrated northwards across the Danube into some vacant tract in Transsylvania, or perhaps were transported thither by the Avars—matters little ethnologically; the Dacians and the Thracians were near kindred. They are probably a good deal mixed in blood, especially with their Slavonic neighbours; their complexion is usually dark, though there are a good many blond Roumans in the Bukowina; their heads are broad (82·8, Weisbach) and of good height, and rounded; their faces broad, but well featured, with nothing of the prognathism of the Bulgarians.

But there are other Roumans in the far south, perhaps of greater interest, though comparatively few in number. They are called Roumans, Vlachs, Zinzars; they are mostly shepherds and herdsmen, who wander along and across the ridges and elevated mountain valleys of Pindus, and towards Parnassus and Ceta. Remote and secluded, they

have been little studied; but they must be the descendants of the old Roman provincials, perhaps of Macedonian or Thracian blood. They are described as having sharply-drawn features and long, shaggy fair hair, but that may be true of but one particular tribe. Their names crop up nowadays in the troubled politics of Macedonia.

And in the recesses of Mount Rhodope, between the Hebrus, the Strymon and the sea, among the Pomaks or nominally Moslem Bulgarians, has been preserved an oral literature of great interest, in the ballad form, and containing sundry words which appear to be Aryan but not Slavonic, and may very well be Thracian. These ballads have for subjects, Alexander the Great, and Philip, and contain allusions to Orpheus, and to other personages who may be referred to Greek mythology. A controversy like that about Ossian arose about these poems; but I believe their genuineness is now allowed. We must suppose therefore that we have in the Rhodope the remains of Thracians who were still un-Romanized in speech when the Slavs and Bulgarians overran the land. It may be noted that the heroes in these poems are always described as fair-haired, but Fligier says this epithet could not be applied to the present generation in Rhodope.

Here are fine opportunities for any enterprising Englishman with money and a taste for travel and adventure, and with sufficient brains to be able to pick up a language. But alas! such men usually seem to care for nothing but "killing something."

Men of the type of Campbell of Islay are wanted; but alas! men so gifted and so disposed are few.

The Albanians, the modern representatives of the Illyrians, are men of good stature, with long faces and prominent, often pointed noses; their heads are remarkably short and broad, with the greatest breadth placed far back. The first skull ever obtained for measurement yielded to Virchow an index of 91·5, and a small series of three from Scutari gave to Zampa one of 89·5—extraordinary figures. Their colour varies in tribes and in individuals, but I think the most characteristic specimens have mostly lank black hair, lighter colours being due to Slavic or Greek admixture.¹ The people to the north of them, the Morlachs, or Black Wallachs, in Dalmatia and Montenegro, and the Herzegovina, are of an Illyro-Slavic cross; they are a tall, dark race. "The wife of Hasan Aga" must have been a brunette, when—

"Wide through Bosnia and the Herzegovina
Spread the tidings of her matchless beauty."

These people have been examined by the indefatigable Weisbach. They have an average stature of about 1,690 millimeters, and in a mountainous district 1,720, or nearly 5ft. 8in., the highest average

¹This *was* my impression, and I am inclined to adhere to it; but Miss Durham, who has dwelt among the northern tribes, says that she found there tall, fair, and small, dark ugly men, that the former were said to have immigrated from the north and east, but claimed to be the true Albanians or Shkipetar. I suspect they were really more or less Slavonic, and adopted the Shkipetar language from the Illyrian aborigines.

ascertained in Southern Europe; and the highest stature is found in the south, *i.e.*, the most Illyrian and least Croat region, and goes with the blackest hair. The index of breadth is 84, which is extremely high. On the whole, Illyria seems to have been a focus for broad heads and dark colours. Deniker makes of these people a distinct race.

Among modern Greeks there are considerable physical differences no doubt. Some portions of their country have been colonised *en masse* by Slavonians; others, as Attica, by Albanians. Even the so-called national dress of the Greeks is the Albanian kilt or fustanella. Still the old type is far from being extinct, either in Europe or in Asia; the ideal of the sculptors was perhaps always rare, but I have seen it, living and breathing, and kissing my hands, in Asia Minor.

Nicolucci found modern Greek skulls smaller in capacity than the ancient, and decidedly shorter; still, the index was under 80 (79·2), the height was good (75).¹ Weisbach found a breadth-index of 77·4 in Greeks of Constantinople; 78·3 for the Peloponnese; 80·7 in a large series from Bithynia; and 83·8 in another from Selymbria in Roumelia. The last result is curious; one must remember that Greek means Greek by religion and language, or not always even that. The divisions of peoples in the Levant are very sharply accentuated; inter-marriage, for example, between Turk and Greek, or Armenian and Greek, hardly ever occurs, but

¹ I found an index of 80 in ten Ægean islanders.

one must not treat these divisions as necessarily ethnological. These so-called Greeks of Selymbria belong to the Greek community; that is all that can be positively asserted. As to their race, all that one can be pretty sure of is that there is very little Greek blood in them.

LECTURE IV.

SCANDINAVIA, CENTRAL EUROPE, FRANCE.

Oldest Scandinavian Skull-forms—The Borreby and Svelrik skulls—The Rhoxalani—Modern Norwegians and Danes—The Icelanders—Ancient German Graverow type—The four Swiss types of His and Rutimeyer—Von Hölder's discoveries at Ratisbon—Ranke on the Bavarians—Bohemia—Hallstadt—Hungary, Poland, Holland—Colour and stature in Central Europe—France, constitution of the Keltic nation there—Results of the *Völkswanderung*—Clear demarcation of types in Belgium, less clear in France—Investigations of Topinard and Collignon.

THE three Scandinavian countries may be taken together as constituting a single province with respect to race as well as to language. Denmark probably became peopled a little earlier than Sweden, and perhaps Southern Sweden earlier than Norway; but we have remains of the men of the stone period from all of them, though very few from Norway. Those who think, as most do, that the Lapps, or a people akin to them, were the earliest inhabitants of Norway and Sweden, point to the fact that the modern Lapps exercise great secretiveness with regard to the burial of their dead, as a reason why the resting-places of their supposed ancestors are very rarely discovered.

The Swedish skulls of the stone age are elongated, and resemble the Graverow type of Germany, but among them are said to be about 10 per cent. of short round skulls, generally thought to resemble those of Lapps, and to indicate admixture of races. In Denmark I am not aware that the kitchen-middens have ever yielded a perfect skull; but there are many in the Museum at Copenhagen from cists and stone-galleries. They vary in length; some of them attain to brachykephaly, but they are mostly characterised by ruggedness of form, and particularly by the great development of the superciliary or brow-ridges. In this and in outline as viewed sidewise they much resemble those of the bronze race in Britain, but are not generally so wide: they also resemble the Sion type of Switzerland, which seems to have been that of the Gallic Helvetii. Some fine examples came from Borreby, and the type is usually known by that name.

Unfortunately, the Danish archæologists seem to have been singularly unsuccessful in finding or procuring skulls of the bronze or early iron periods. Those they have are extraordinarily long and narrow, but they are too few to generalize upon. Virchow has remarked that the old stone-type seems to have continued to exist in Denmark, and is pretty common nowadays: this is pretty much what one finds in most countries; either the influence of local agencies continues to work in the same direction on the skull-form, or else the original race, the autochthonic if any race is so, having had

time to assimilate itself to the conditions, and to acquire potency in breeding true, and being perhaps favoured by social conditions which I have before spoken of, outlasts its conquerors or other newcomers, and once more acquires predominance.

The only skull found in Norway which is with absolute certainty referred to the stone period, that of Svelrik, is precisely of the form just now in question, but its breadth index is only 76·4; height, 74·41. Skulls of this type still occur among the modern Norwegians, but not very commonly. They are not like those of modern Lapps: as Dr. Arbo says, we don't know what sorts of heads the Lapps of those days had; but plenty of skulls much *more* like those of Lapps have been found in Germany, Belgium, and France; for example, some of those Dupont found at Furfooz near Dinant; apparently also the ancient round skulls of Sweden are of this class.

Montelius, one of the best known of several able Swedish archæologists, is of opinion that there is no evidence to shew any change of race in that country since the stone period: he thinks, that is, that the ancient long-headed race that first entered the country after the small round-headed Lapps or Finns, has always remained there undisturbed. Aspelin, on the other hand, thinks that the Roxalani, those mighty men in scale-armour who came into contact with the Romans on the Danube, were the ancestors of the true Swedes as distinguished from the Goths; that they dwelt somewhere east of the Baltic, and crossed over in order to escape from

the Huns. This theory would suit well with the old beliefs about Asgard and Woden; and I believe the Finns call the Swedes Ruotsi—Ruotsi-alainen—Red-men. But the names of Roxalanian kings, known to the Romans, have not a very Gothic sound: they are Tascius and Rhescuporius.¹

Since the above was written, very much has been accomplished in the matter of Swedish anthropology, chiefly by Gustaf Retzius and by Professor Fürst of Lund. We are now able to say with confidence that there was a great general resemblance in skull form between the people of the stone, the bronze, and the iron ages. The typical form through all these periods was very long, rather narrow, and of height slightly less than the breadth. Brachykephals were apparently rare throughout, but the limits of variation of the cranial index seem to have been greatest in the stone age (66·7 to 85·5), and least in the iron age (69 to 80·6). The easiest way of accounting for this is to suppose that the earliest inhabitants were of two stocks, the more numerous one, dolichokephalic, coming in from the south, and acquiring, may be, in the lapse of ages, through exposure to the influences of a boreal climate, the blond complexion and lofty stature; the other, brachykephalic, perhaps of Lappish kindred, from the east, and that in course of time the relics of the latter have become thoroughly amalgamated.

Any ethnological changes in Scandinavia during

¹ But Tassilo was a Duke of Bavaria some centuries later.

the historic period, which here does not reach very far back, must have been small. Ugrians from Bjarmaland, fleeing from the Mongols, as already mentioned, have settled in the north: and other Finns, the Quaens, have followed them: the Swedes have gradually colonised their own territory, and the Norwegians the higher and inner dales; the Danes have receded a little in the south, while Frisians, Low Germans, even Wends, have advanced: but the important movements have been those of emigration; from Sweden to Russia, from Denmark and Norway to Iceland, Scotland, England, Ireland, Normandy, and elsewhere, ayè, even to America.

Likely enough the physical types may have changed a little, with the departure of the most energetic and adventurous part of the population, including probably an undue proportion of the chieftain caste. There is an old document somewhere, quoted by Mallet or Dasent, which describes the nobles as fair-haired, the churls red-haired, the thralls black-haired, and which, as well as many of the stories about trolls, seems to point to the expulsion or subjugation of a primitive dark race.

As to present conditions, we know a great deal about the Norwegians, thanks to Dr. Arbo and Sergeant Westly. Dr. Arbo's maps of stature, of hair-colour and of head-breadth, have a very confused, jumbled look, due, as he explains, to the fact that the country is divided so trenchantly, by mountains and forests, into districts which have little communication with each other. The average

stature at twenty-two years seems to be 1680 to 1700 millimeters, or scarcely 5 feet 7 inches, less than I should have expected: in some districts it rises to 1730 (5 feet 8 inches). The skull is dolichous (index after correction 74.75), in a number of districts chiefly in the interior. Dr. Arbo says that the prevalence of long heads concurs generally with that of a high stature, and very blond hair, a more advanced social condition, and sometimes aristocratic, but certainly conservative, tendencies. He also says that prognathism goes oftener with broader heads. Brachycephals (78.5 to 81), occupy especially the coasts and the south-west. Near the head of the Sognefiord, also, some dales are inhabited by a population with rather broad heads (78.5) and dark complexions, with great physical and intellectual activity. It is difficult, however, to make out much about colour: on the whole the hair seems to be lighter in the south and west than in the north and south-west.

It is lighter in the south-west in Sweden, where West Gothland and Scania are said to produce the fairest people. In Dalecarlia, where Quatrefages and Hamy think they find the Cromagnon type, the hair, I understand, is often dark. I found the breadth-index of a number of Swedes 79.2, or after correction for life and the integuments, 77.2, which I believe is about where it is put by some distinguished savans.

Within the last few years, G. Retzius and Fürst have cleared up this part also of the subject, as regards Sweden. Their researches, carried out on

conscripts, have distinctly settled several important points respecting the modern Swedes. In stature they equal or surpass any European nation: their conscripts averaging 1709 millimeters (67·28 inches), while the provinces vary between 1727 millimeters (68 inches) in the Isle of Gottland, and 1691 millimeters (66·57 inches) in Lappland, where, I apprehend, the pure Lapps pull down the average. Of course, many of these young soldiers have not attained their full growth. Speaking generally, the central provinces produce taller men than either the northern or the extreme southern ones. They have also a lower kephalic index and a larger proportion of true dolichokephals (long-heads). Finally the centre, south, and west, have the greatest preponderance of fair hair: the variation in the proportion of light and dark eyes is less conspicuous. Some anomalies which are discovered on minute study are easily explicable by the history: thus the heads are a little broader in Uppland and Scania than one would have expected; but Walloon and other alien miners worked the mines of Uppland, and Scania was long a province of Denmark. West Gothland is apparently, though but slightly, the most blond of all; but East Gothland is different in that respect, and I see no facts sufficient to indicate that there was any original difference between the true Swedes and the Goths. Both these, and the possible Roxalanians too, pretty surely belonged to the same tall dolichoblond type. Generally speaking, the coastmen have slightly broader heads than the men of the interior. For all

Sweden the index, got by reducing that measured by 2 degrees is only 75·8; but I myself got one of 77·2 from thirty Swedish sailors. This is doubtless due to modern mixture of blood.

The Danes are rather lower in stature than is generally supposed, and scarcely so tall as the Frisians and Saxons of Sleswick, to the south of them. The average *adult* stature seems to be 169·4 millimeters (Soren-Hansen) or 66·7 inches, and the cephalic index 80·5, which, it interests me somewhat to know, is the exact figure at which I myself arrived forty years ago, from observations on a few (twenty-eight) Danish seamen. Steensby finds the most prevalent type of skull and figure to be much the same as that which the late Park Harrison and D. Macintosh found in Kent and Wight, and labelled Jutish. Steensby correlates it with the ancient Borreby type of Denmark and the Sion one of Switzerland, and hazards a conjecture that it was developed in the course of ages from the primeval Neanderthaloid. The race history of Denmark is that of a slow westerly drifting from Denmark to England and the Cotentin, the gaps left being filled up ultimately from the east, *i.e.*, from Sweden or even by Wends, or Saxons from the south.

In Thy, one of the districts where the stature is highest, it is but 1670 millimeters on the average, equal to something less than 5 ft. 6 in. As the subjects are conscripts, probably one may allow an inch for subsequent growth. In Wendsyssel and part of Zealand it is 165·9, or 5 ft. 5½ in. There are also local differences in colour; evidently, as in some

other countries, including our own, many more women than men have dark eyes. On the whole, blue or grey eyes and rather light brown hair prevail. As to the form of the head, I have no figures but my own, gathered from only twenty-eight subjects; I make the index, corrected, to be 78·5, but this may probably be in excess.

In stature the Swedes probably equal any European nation; but except the American statistics of Dr. Baxter, in which are included a large number of Swedish soldiers, I do not think there are any published measurements on a large scale. Baxter's average was 5 feet 6·9 inches; Gould's, on a smaller basis, was higher.

It will be seen that the phenomena in Scandinavia are consistent with the original occupation of these countries by a dark race or races, with skulls tending, at least, to be broad, and with the subsequent arrival from the south of a fairer race with long heads, whose type assumed preponderance. The blondness of the southern invaders might become accentuated in and by the Scandinavian climate. There seems little reason to suppose there has been any subsequent increase of breadth except to the small extent which incorporation of primitive strata of population would imply. As for the Swedes, there is a good deal of indistinct evidence to connect them with the Lithuanian stock, whose index is not very much higher.

The Icelanders must not pass unmentioned. The ancient colonists of this everyway remarkable island included a large proportion of the noble caste. It

has been suggested, also, that the captives they brought from Ireland, and occasional intermarriages with the Irish and Scottish Gaels, gave them the ray of poetic imagination which sometimes brightens their wonderful but sanguinary Sagas. We know from these Sagas what manner of men they were in personal appearance. They had the same varieties of complexion and hair-colour that we have, and in some cases Irish features came out with Irish blood; thus Kjartan had dark hair, and Skarphedin, the son of Njal, was the most soldierly and active of men, but he had an ugly mouth, and his teeth stuck out.

The modern Icelanders are big, fair men; the only skull I can find mentioned is one at Gottingen, with indices of 72·3 and 72·9. Some measurements made for me by Dr. Hjaltelin come out a little broader. In Germany and Central Europe, as elsewhere, the very oldest skulls seem to be dolichokephalic; in this case they are of the Canstatt type, and one of them is the famous Neanderthaler. Several broad skulls also have been found, which have very respectable pretensions to primitive antiquity.

The crania of the neolithic period throughout the whole region under consideration, are in great majority also dolichokephalic. Perhaps I should make a partial and doubtful exception with regard to the pile-dwellers on the Swiss lakes. But generally speaking, from the North Sea and the Baltic to the Danube and the Alps, and eastward through Bohemia to the Vistula and the Niemen, the prevailing form was long. In many of the Hugel-

graber, the dolmens and tumuli, a form occurs with greater breadth and roundness, but still averaging under 80.

We have no history for Germany until well into the iron age, nor anything but probabilities based on philological arguments. I am disposed to look on the tenants of the Hügelgraber as Gallic, but this is but my own private conjecture. From Tacitus's account, the Poles (Lygii, Lekhs) were already in Poland in his time, but the modern Poles have broad square heads (82'4).

The Germans had already begun to overpass the Rhine and the Danube when the arrival of the Romans checked their expansion, and determined a flux of Kelts, Rhætians, Pannonians and others, mostly of the broadheaded division of Europeans, to the frontier, whose descendants are still extant.

Meanwhile the mass of tall, blond, vigorous barbarians multiplied, seethed and fretted behind the barrier thus imposed. Tacitus and several other classic authors speak of the remarkable uniformity in their appearance; how they were all tall and handsome, with fierce blue eyes and yellow hair. Humboldt remarks the tendency we all have, to see only the single type in a strange foreign people, and to shut our eyes to the differences among them. Thus some of us think sheep all alike; but the shepherd knows better; and many think all Chinamen are alike, whereas they differ, in reality, quite as much as we do, or rather more. But with respect to the ancient Germans, there certainly was among them one very prevalent form

of head, and even the varieties of feature which occur among the Marcomans, for example, on Marcus Aurelius's column, all seem to oscillate round one central type.

This is the Graverow type of Ecker, the Hohberg type of His and Rutimeyer, the Swiss anatomists. In it the head is long, narrow (say from 70 to 76 in breadth-index), as high or higher than it is broad, with the upper part of the occiput very prominent, the forehead rather high than broad, often dome-shaped, often receding, with prominent brows, the nose long, narrow and prominent, the cheekbones narrow and not prominent, the chin well marked, the mouth apt to be prominent in women. In Germany persons with these characters have almost always light eyes and hair. Now comes a problem, one of several in German anthropology. This Graverow type is almost exclusively what is found in the burying-places of the fifth, sixth, and seventh centuries, whether of the Alemanni, the Bavarians, the Franks, the Saxons, or the Burgundians. Schetelig dug out a graveyard in southern Spain, which is attributed to the Visigoths. Still the same harmonious elliptic form, the same indices, breadth 73, height 74.

But Ecker, proceeding from the examination of the ancient Alemanni to that of the modern Swabians, was surprised to find that from among them the Graverow type had almost disappeared, and that a short broad squarish form, with flattened occiput, had taken its place. Then Von Hölder investigated the Wirtembergers. They are mostly

Swabians, too; but probably the Alemanni occupied this country before they spread into Baden and the Brisgau; and so there are more blonds in Wirtemberg.

Accordingly, Von Hölder found a small number of the true Germanic or Graverow heads, but also a few of the oblong form just mentioned, which he calls Rhoeto-Sarmatian, and once in a way a globular form, his true Turanian, while the majority is made up of various crosses between the three. Von Hölder wrote to me years ago, saying that he much wished to come to England in order to see the true Germans, who are really stronger here than in Swabia, though in Franconia, a little further north, they are numerous. The average index of modern Wirtembergers is about 81.6. Von Hölder found the long Germanic forms more prevalent among noblemen and burghers than among artisans and labourers. He thought the Sarmatic forms had been strengthened, and the Turanian ones introduced, by the settlement on the land of Slavonic, Hunnish, Avar, and Magyar captives, taken in war by the Germans.

It is difficult to dismiss Switzerland briefly. Its proto-historic inhabitants were Rhætian in the east, Keltic-Helvetian in the west and north. What the pile-dwellers had been is a subject by itself, which, for the present, I will leave to Dr. Monro.

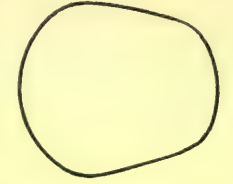
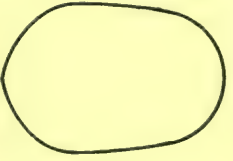
His and Rutimeyer found four ancient types:

1. The Hohberg, which is Germanic, though they thought it Roman.
2. The Belair, which is Burgundian-German.

EUROPEAN SKULL TYPES, -VERTICAL ASPECT.

Dolichokephalic.

Brachykephalic.



Elliptic.

Lozenge.

Pyriform.

British.

Sarmatic.

Turanian.

CRAVELOW TYPES.

PENTAGONAL.

NEOLITHIC.

OF VON HÖLDER.

English?

Irish.

Iberian.

Rhoetic.

Spherical.

Filled.

III Filled.

Disentis.

HÖLDER.

Belair?

3. The Sion—large, longish but rounded, frowning, aquiline—very like the modern Walloon. Keltic-Helvetian.

4. The Disentis. Very short and broad, cuboid but for the narrowness of the forehead. Rhætian, Rhæto-Sarmatic of Von Hölder, Keltic form of some.

The Alemanni conquered and Germanized as to language the centre and north-east, but the Rhætians in the south-east were little touched. The Burgundians conquered the west, but did not change the language there, which is now French. The Disentis type of head is nowadays in great majority. The greater stature in the west of Switzerland may be credited to the Helvetii and to the seven-foot Burgundians, as Sidonius Apollinarius called them: in the east it has probably been reduced by the continued emigration of the taller men, who would be largely of Alemannic type. The skull-breadth which I found in two places was 83·6: in parts of the Grisons it is probably greater.

In Bavaria the proto-historic population may have been Keltic or Rhætian even north-east of the Danube, in the Upper Palatinate; recent discoveries at Hohenbuchel and elsewhere seem to indicate a non-Germanic population, with broadish heads and broad flat noses; but at least as early as the Roman occupation the pure Germans (Marcoman or Hermundurian, probably), began to come in. Franconia was probably Germanic from the first. Subsequently the Slavs from the Bohemian side settled largely in Upper and Middle Franconia.

Von Hölder's work done at Regensburg (Ratisbon) is most pregnant and suggestive. From the Roman cemeteries he obtained nine skulls dating from the second century, with a breadth index of - - - - - 79·4

From about A.D. 200, 8 skulls, - 77·1

From the third century, 13 skulls, - 77·4

From about A.D. 300, 10 skulls, - 75·7

From the fourth century, 22 skulls, - 75·1

And 50 skulls from an old Bavarian burying-ground of the sixth or seventh centuries, the Merovingian period, - - - 73·8

I do not enter into particulars as to the other racemarks in these crania; in this instance at least they vary *pari passu* with the breadth-index. We have clearly a population of mixed Roman subjects, gradually being infiltrated by Germans, until, after the Roman dominion has come to an end, the Marcomanni, now called Bavarians, come in *en masse*.

Now look at the modern population. 193 skulls from the crypt of St. Michael's Church, mostly of the eighteenth, some *of the seventeenth perhaps*, gave an index of 83·16. The forms which Von Hölder calls Turanian, and which according to him scarcely appear at all in the earlier periods, constitute a very important element.

Now let us turn to Ranke, whose monograph on his countrymen, the Bavarians, is very important. He also finds for the modern Bavarians an index of 83. Large as this is, it is exceeded on the one hand among the people of Michelfeld in upper Franconia,

who are of Slav descent and dwell in a hilly district; and again in the Bavarian highlands and in the Tyrol generally, except in some valleys known to have been colonised by the Alemanni, among which, it is curious to note, is the Protestant Zillertal. There are places in the Tyrol where it rises to 85, or even higher, according to Frizzi.

Ranke finds but one leading type in Bavaria proper, which he describes minutely, and which may be familiar to many who have never been in Bavaria or Tyrol, through the paintings of Defregger. It is the cuboid form, Von Hölder's Rhæto-Sarmatic, Kollmann's broad-headed long-faced type. But in Franconia, outside the old Roman boundary wall at Ebrach, whereas the average head-breadth sinks to 78·9, he finds nearly half the heads display a true Germanic type, though not exactly the Hohberg one; and the curve of breadth gives one maximum at 73 and another at 83.¹

What seems strangest is, that if we draw out a similar numerical curve corresponding to the indices of a large number of Bavarians, we do not find evidence of two unconformable, or at least as yet unconformed races. On the contrary, the curve is fairly regular. Ranke, who is a believer in external agencies and in transformation, and thinks that life among mountains in some unexplained way tends to shorten and widen the head, says that in the modern Bavarians a German face has been married to a brachykephalic braincase. He does not, I think,

¹ See illustrative diagram.

anywhere commit himself to the statement that this broad head represents another race; but most men would have no doubt about that. Anyhow, the mixture must be wonderfully complete, quite otherwise than in Wirtemberg, for Ranke finds that the average head-breadth in blonds and brunettes is precisely identical.

In Bohemia all the ancient skulls are long and narrow, some to an extraordinary degree; and this is the case in the neolithic and bronze ages also. There is something in the general contour of all those which Weisbach figures, which, though the measurements come out very much like those of Graverow Germans, makes me think them Galatic: they are less elliptic, more lozenge or coffin-shaped, the brows less arched and prominent. Moreover, Galatic they ought, I think, to be: the Boii, who were either Galatic or Keltic, or a mixture of the two, occupied Bohemia in those days. After them the Marcomanni, the ancestors of the Bavarians on the spear side, had a transitory occupation. The modern inhabitants, Czechs, *i.e.*, Slavs, have large, broad, cuboid skulls, with an average index of 83.6. I recollect asking Professor Rokitsansky whether the Czechs were not brachykephalic. Rokitsansky was himself a Bohemian, and he was evidently nettled by a question which he thought touched upon a weak point in his fellow-countrymen. "Ah! well!" he said, "they are a very clever people for all that."

In Austria proper, and the German territories south of it, few very ancient crania have been found.

Those of the famous early-iron age station of Hallstadt, in lower Austria, have yielded, on an average of 7, an index of 73. They are probably Galatic; but the archæological history of the Hallstadt discoveries is still much debated. These long crania may have been those of the ruling caste only.

Austria has been, ethnologically, a sandbank washed to and fro, east and west, by the tides; and these have been latterly tides of Bavarians on the one hand, and Avars and Magyars on the other, with a kind of by-wash of Slavs from north and south. The modern population is nominally German; but is apparently as mixed as might have been expected. Zuckerkandl found in different ossuaries the following respective breadth indices:—84·7, 82·4, 81·7, 78·4. And Weisbach, who probably dealt with the Viennese, who are certainly more Germanized than the peasantry, puts the index at 81·1.

The highest index here, 84·7, is that of the mediæval and modern people of Hallstadt. And Zuckerkandl asserts confidently, after an exhaustive examination, that the cranial type of the inhabitants of Hallstadt has not varied since the twelfth century. This looks something like a crucial instance. The Hallstadtians must surely have advanced somewhat in civilization and intellectual development since the twelfth century; yet their heads are none the broader for it; on the other hand, it would be difficult to say they were much further advanced in the twelfth century, an age of barbarism, than when they produced in prehistoric times, those beautiful and elaborate works in bronze and iron

which we call Hallstadtian; yet their skulls grew wider in the interim by more than 11 per cent. Surely there was here a substitution of one race for another, not a mere development. And we may recollect that the very fountain of brachykephalism lies not far to the south, in Illyria.

Hungary is another seething place of races and nations, but from the character of its physical geography has always attracted equestrian and pastoral hordes. The most curious find of ancient skulls there has been that by Dr. Lipp, at Keszthely on the Plattensee. The conjectural period is the latter part of the fourth century. He found the long skulls of a tall stalwart people, evidently Germanic (Quadans or Vandals?) and those of another race, short-statured and robust, with curved legs and many signs of badly united fractures; their heads were long, foreheads low and narrow, occiputs broad, and cheekbones prominent. These Fligier takes to have belonged to the equestrian Sarmatians (the Jazyges), and to show a mixture of Iranian with Ugrian or Ural-Altaic blood.

The modern Hungarians are a handsome people, of short stature, with round heads, broad cheekbones, and generally dark hair and eyes, and, I should say, with more of the Turkish than of the Finnish aspect.¹ But the Szeklers of the Transylvanian mountains, a remarkably intelligent people, mostly, I believe, Unitarians, and claiming

¹ Ibn Fozlan says, "Chazari Turcis (by which he means the Ugri) similes non sunt: nigrum capillum habent."

to be the purest Hungarians, have more of the Finnish facies. The country of Jaszag by its name recalls the Sarmatian Jazyges just now mentioned, some remains of whom may perhaps still be constituents of its population.

Returning to the north of Germany, it may be repeated that as a general rule the skulls of prehistoric or early date are long, whether they are supposed, from archæological evidence, to be Germanic, Slavic, or Lithuanic. The evidence is not so cogent, or rather so abundant, in the case of the Slavs, as they frequently resorted to cremation. Great internal migrations have taken place in the historical period within the limits of North Germany, but no great immigration of any race not previously represented. Yet evidence seems to point to a change in the physical type.

The modern Poles, at least in the south, are a fair race on the whole, but of short stature, with broad heads (82·4).¹ All through Prussia the mixed Slavo-German race is said to incline to brachycephaly, though perhaps less so towards the coast. West of the Elbe, in Westphalia, for example, there seems to have been little change; but the Wends or Slavs in Luneburg run up to 82, as Slavs ought to do, though they be but a little isolated handful. The dwellers in the flat alluvial lands of Holland have as a rule rather broad, flat heads, elliptic in the vertical aspect, cylindrical from behind, often somewhat prognathous. In Zealand (South Beveland),

¹ Majer and Kopernitsky.

the average of certain skulls disinterred from a drowned village, victims to the inundation of 1530, actually rises to 85, according to Sasse; and De Man of Middelburg finds something like it among the living; he thinks these brachykephals, though ancient, were not the earliest settlers in those parts.

Much discussion has arisen about these and such like facts. Virchow maintains the existence of a separate Frisian type, broader and flatter than the ordinary German descended from the Graverow men. Von Hölder disputes this. I can only say now what I have said already, that the conditions of soil, water, etc., in the islands and marshlands of Holland and Friesland might well be believed to influence the physical development. The Beveland folk, however, may not improbably be the remains of an ancient tribe of brachykephals, driven into the islands by the Batavi, or by still earlier invaders.

As for colour, complexion, one can hardly look at Virchow's maps, the result of the gigantic inquest carried out under his direction on the school children, without coming to the conclusion that both latitude and race must have to do with it. Beginning with Sleswick, and then with the coast-line generally, one finds a pretty regular falling off in blond hair and blue eyes, and an increase in dark hair and brown eyes, as one gradually proceeds southwards. It is more when one looks into details that one recognises the influence of race, when one sees for example that Wurtemberg is fairer than Alsass and Bavaria, which were later colonized; and those who are acquainted with the minute history of the provinces

of Germany can point you out numbers of instances of that kind, but not such sharp contrasts as that between the Flemings and Walloons.

Stature is another point of race difference. The Wends were not much darker than the old Germans, it would seem, but they were not so tall, while the Frisians were taller than the Danes and Low Germans; and this difference follows them up in the parishes or cantons which they respectively colonized in Mecklenburg or further east. One investigator thinks that elevation of level has to do with elevation of stature; another thinks he can show that rich soil is more operative; but they all agree that race *does* tell, and they can all give reasons for their belief.

One can see that the difference of latitude between Schleswig-Holstein and Bavaria may have something to do with the fact that the former had 80 per cent. of children fair-haired, and the latter only 54; (I do not say that it has, but that it may have); but surely it is not the cause of the Schleswig conscripts averaging 5 ft. 6'6 in., and the Bavarian conscripts only 5 ft. 4'3 in. In Thuringia again, about Erfurt, Reichel finds the conscripts average 1670 millimeters (5 ft. 5 $\frac{3}{4}$ in.). That is for the Germanic Thuringians, but as one goes eastward there is a regular decline of stature as the Slavonic element increases, until about Halle, where the peasantry are Germanized Slavs, the average is just under 5 ft. 5 in. Yet the Halle district is the most fruitful.

As for the permanence of hair-colour, let us look again at Bohemia. We know that the Germans,

about the year 1000, regarded the Slavs as a people less fair than themselves, though it may be that this opinion did not refer to the northern Wends. And we know that Ibrahim ibn Jacub, a Jewish traveller, who wrote about A.D. 965, found the Bohemians swarthy, usually with black, seldom with light hair. Old Bohemian chroniclers contrast the black hair and beards of their countrymen with the light colours of the Saxons. Since then Bohemia has been largely colonised by Germans, chiefly from the fair Saxon, not from the darker Bavarian side. And now the schools are divided into Bohemian or Czech, German, and mixed. Well! the proportion borne by the number of children with dark hair to that of those with light hair, amounts in the—

German schools to -	-	718 dark,	1,000 light.
In the Mixed schools to -	1,398	„	1,000 „
and in the Czech schools to	1,793	„	1,000 „

And it is curious that of 35 Czechish districts the one which has the lowest proportion is called Deutsch Brod, German Brod, doubtless because there was once a Germany colony there, which has been Slavonized in course of time in point of language, but not in that of colour.

As France is the country in which anthropology has been most zealously cultivated, and whose own material has perhaps been best worked up, it is very difficult to compress my account of it within the necessary limits, and I shall avoid all discussion of difficult points. Belgium will be best included with France.

You may have gathered from an earlier lecture

that before the neolithic period brachykephalic as well as dolichocephalic types of man were already domiciled in France. The dolmens, which in the western and north-western parts of France, but especially in Bretagne, are very numerous, contain in some cases only long-headed skeletons, but in others there is a mixture of the types, such as does not occur in England and Scotland. Whether the long-headed dolmen builders were of the same race as the older, Cro-magnon and Solutré, people, is very doubtful; the general belief is that some of them, at all events, belonged to an early wave of the blond northern conquerors, and that these passed over into Africa (where dolmens are exceedingly numerous, and continued to be erected down to a late period), and were the same people who appeared in the Egyptian wall-paintings as fair and blue-eyed, under the names of Tahen-nu, Tamahu, and Lebo or Lybians. It is, however, quite conceivable that the "swart Egyptians," struck by the exceptional occurrence of a proportion of blonds among their Libyan foes (who may have come from Auress or the Riff, or some other mountainous region where the type survives to this day), made use of the peculiarity to distinguish in their wall-paintings the entire Libyan race. What we may really be certain of is, that the old long-heads mixed with the short-headed people, of whom probably a new wave had come in from the east and brought with them the domestic animals and some of the arts (though here again I am lapsing into the dubious)—what we may feel sure of is that

much amalgamation took place, that subsequently one or more waves of blond conquerors came in from east and north-east, and overlaid the greater part of the country, and that when the Roman period arrived they constituted a military aristocracy, which was particularly strong in the north-east, *i.e.*, in Belgium. This blond race or caste was called the Galli, Galatai; the French call their type the Kymric, and mostly believe that it was also that of the Kimmerians; but the nation was that of the Kelts, and the mass of it, which, without much positive evidence, is supposed to have been short, sturdy, and of rather dark complexion, as it is now, is spoken of by the French, since Broca's time, as Keltic. This it is important to remember. Those who think the blond northern long-headed people were the original fabricators, or even the importers into Europe, of the Aryan language, mostly suppose that they imposed it at some time, not necessarily after their arrival in France, upon the Kelts, who in such case must have previously spoken an allophylian, not an Aryan, tongue. If, however, this conversion of the Kelts to Aryanism took place in France, it is quite conceivable that they had previously imposed their own language on the Iberians, or Mediterranean long-heads, whom they had themselves subdued and overlaid already. This suggestion I quote, but do not endorse.

The position, then, in the time of Cæsar, was on this wise:—Beyond the Garonne, and along the Pyrenees, and as far east as the Rhone, the Aquitani, an Iberian people. In the corner east of the

Rhone, the Ligurians, of whom more presently. Throughout the mass of the country, from east and south-east to west and north-west, pressing across the Garonne, and stretching northward beyond the Seine, the Keltic nationality, composed as before described. North-east of them, extending almost or altogether as far as the Rhine, the Belgæ, in whom the Galatic element was stronger than in the Kelts, and who were beginning to be pressed upon and interpenetrated by the next wave of blond long-headed warriors, the Germans. Finally, on some parts of the course of the Rhine, tribes thought to be German rather than Galatic had already established themselves on the left bank.

Subsequent changes were these:—The Roman domination may have somewhat Italianized the blood in particular districts, especially about the Mediterranean coasts. The Kelts probably continued for some centuries to gain ground on the Iberians beyond the Garonne. The blond, or as the French say, the Kymric element, had probably been considerably diminished during Cæsar's conquests; but, as the empire declined, this was again somewhat increased by the settlement, especially in the north-east, of Germanic captives as colonists.

At the time of the Völkswanderung, almost the whole land was overrun and settled on by several nations, mostly, but not all Germanic. In some parts, however, the occupancy was simply military or political. The Franks, for example, Salian and Ripuarian, settled thickly in Flanders and Brabant and along the left bank of the Middle Rhine respec-

tively; they also spread in a thin stratum over most of the country north of the Loire and of Burgundy, and somewhat more thickly in the neighbourhood of Laon and Soissons, but scarcely at all in Bretagne.

The Saxons, following the Franks, completely Germanized Flanders and Brabant, the Frisians co-operating. The respective shares of these people in the work are difficult to appreciate, but Vanderkindere has made the attempt, relying chiefly on the analysis of local names. Saxons also settled numerously about Bayeux and Caen, in what afterwards became Normandy: they colonized the peninsula of Batz in south Brittany, and probably the Isle of Ushant, which has still the distinction of producing the tallest and finest breed of men in Brittany. The Burgundians settled in Savoy¹ and in the Jura, and about Geneva and Lyons, and subsequently in the country which still bears their name. The Visigoths became the rulers of the whole south of France, and gave a new military aristocracy to many parts of it, not however to Auvergne, where the Gallo-Roman gentry were not displaced. The Franks, though they became politically dominant in the south after the defeat of the Goths at Vouillé, do not seem to have settled there to any extent.

Finally, the Norwegians and other Scandinavians occupied Normandy in large numbers, and settled

¹ Probably they more or less completely abandoned Savoy subsequently, as no trace of their type seems to be found there now.

also in the north-east corner of Brittany, and to the south of the Middle Loire, in proportion sufficient, perhaps, to leave traces in the local forms and complexions.

The relations of stature, head-breadth, and colour, have been carefully studied both in France and Belgium. In the latter country the results obtained by observation are remarkably clear and satisfactory. Vanderkindere managed to effect the investigation of the colours of the hair and eyes of the school children, and found that the line of demarcation between the blonds and the brunettes coincided pretty closely with that of language. The Flemish-speaking cantons have the most blonds, the Walloon-speaking have the most brunettes. The line of the division runs due east and west, a little south of Brussels and a little north of Liege.

Scarcely less satisfactory are Houze's observations on head-form, which, however, do not extend beyond provinces to cantons. But all the provinces north of Vanderkindere's line have populations with longer or narrower heads than any of those to the south of it. In the north, or Flemish division, the range is from 76·70 in Limburg to 78·31 in West Flanders, in the south from 78·51 in Namur to 81·17 in Belgian Luxemburg.

Now, of course, stature ought to follow the same rules, and be higher to the north than to the south of the frontier line of language. And so it is. Every northern province stands above every southern one. Limburg, the most purely Germanic and the most long-headed, has also the tallest inhabitants (1666

millimeters=5 ft. 5'6 in.¹), and Hainault, which has the most brunettes, has the shortest. The rule holds good even to the length of the nose. The Flemings have the most long, the Walloons the most broad noses: the Bruxellese, lying in Brabant, but nearer the Walloon border, naturally come between, but nearest to the Flemings.

The point of stature is, I think, particularly remarkable. Flanders and Brabant are flat, damp, studded with unhealthy manufacturing towns; the Walloon provinces are generally hilly, breezy, agricultural or pastoral, and their recruits are on the whole healthier, and fewer or quite as few of them are absolutely undersized; and stature is of all hereditary qualities one of the most easily affected by media; and yet withal the Flemings are on the average taller than the Walloons, by virtue of hereditary right.

A great deal of work of the same kind has been done in France, and the results have been often, but not always clear and satisfactory. Edwards pointed out the prevalence of his Kymric type—long head, square high forehead, long high nose, fair skin—the well-known head of Dante has something of the form—in the north-east of France. Then Boudin and Broca proved that the departments in which high stature prevailed formed a compact mass extending from the Straits of Dover and the mouth of the Seine to the Jura and the Rhone, while those

¹ These figures refer to conscripts. Full-grown men would probably be nearly an inch taller, perhaps 5 ft. 6½ inches, or about the average height of southern Englishmen.

where stature was lowest were aggregated in a central mass, for the most part, with prolongations to Brittany and the Pyrenees, while the departments fringing the Bay of Biscay from the Loire to the Pyrenees, and those bordering the Mediterranean, occupied mostly an intermediate position. I have spoken already of the double maxima of stature discovered by Bertillon the elder in the lists of the Doubs, indicating a mixture of two races, one of the Keltic, with a stature of about 5 ft. 4 in., the other, presumably Burgundian, of about 5 ft. 8 in. The same phenomenon was subsequently discovered in the lists of several of the northern provinces, such as the Oise and the lower Seine, where the taller men may be taken to represent the Galatæ, Franks, and Normans.¹

Next followed Topinard with his great inquest into coloration. On the whole, its results are not far from what might have been expected; of those that are otherwise, some may depend on the personal or local equation of the observers; though Topinard guarded himself as much as possible against this, by issuing to his assistants standards of colour; others may depend on migrations or settlements anterior to history, or which have taken place silently and unnoticed in more modern days.

The north-west and extreme north come first, or are most blond; then the north-east and the region of the Jura, then Brittany, the Isle of France, Savoy, Berry, the Creuse, the Charente, then most of the

¹ Lagneau, *Anthropologie de la France*, p. 41. See diagram.

centre and west centre, the Alps, etc., then Poitou, Aquitaine and Languedoc and Auvergne, finally the Pyrenees, Provence, and Corsica.

Of anomalies the most curious is the rather high position of Creuse, which is certain though unexplained. Morbihan, too, stands second in the whole list, which I can hardly understand, unless there are portions of it very different from the parts about Auray which I have visited. The Veneti, its old inhabitants, were said to be Belgic; but Cæsar, as I have told you already, says he exterminated them.

Thirdly comes Collignon's investigation of the headbreadth, extending also to every department. The resulting maps differ more, perhaps, from those of stature and colour than these two differ from each other; for of the three great race-divisions of France the true Celts are intermediate in colour, but stand perhaps last in stature, while they have by far the broadest heads. On the map of headbreadth, therefore, they distinguish themselves most clearly. They occupy the entire east of France, the maximum of breadth being found in the Jura, with a secondary maximum in the Cevennes. One prolongation is pushed across the Upper Garonne to the Western Pyrenees, another into Touraine, Maine, and Brittany. The southern coast is occupied by the long-headed Mediterranean race, which is at its purest in Corsica and Rousillon; while the northern long-headed race streams in from the Flemish frontier, as far as Normandy and the Isle of France. But there is another comparatively long-headed area, including eleven departments, of which the

Gironde and the Cher are the two extremes in local position, and which can only be supposed to represent the primitive long-headed (say Cro-magnon) race, only moderately crossed by the Celts, and somewhat reinforced by the northern blonds.

Taking the three maps together (those of Boudin and Broca of Topinard and of Collignon) we get this impression. First, that there is a short dark long-headed race, which was aboriginal or else came in across the Pyrenees; this is the Iberian or Mediterranean, and is most pure, I repeat, in Rousillon and Corsica. Secondly, a short, thick-set rather dark and broad-headed race, which streamed in from the east, from the side of the Alps and the Jura, and so to the west-north-west and west-south-west, towards Brittany and the Pyrenees. Thirdly, a tall, blond, long-headed race, which came in from the north and north-east, and also to some extent by sea. This one, crossing with the second, has produced the tall, blond, short-headed people of the north-east (Lorraine, Burgundy and Franche Comté) and crossing with the first, to a less extent, may have helped to produce some unexplained phenomena in the west. There are, of course, sub-divisions and sub-types also, but these we have not now space to consider.

Those who are disposed to make much of the influence of external agencies may note that in France, as elsewhere in Europe, the roundest heads are found in the mountainous districts. Of the provinces of France, Brittany has been especially studied by Broca, Guibert, Collignon and Chassagne.

Here it is pretty clear that the blond people arrived on the sea-coast, and thence filtered in along the most easy channels, in some cases along the Roman roads, with the result that at present the small, swarthy round-headed breed is found most pure in the central moorlands. De la Bourdonnais, returning from travelling in the Himalaya, says these Bretons are Mongoloid;¹ and Renan, also a Breton, when he visited a Lapp encampment, saw there types of women and children, traits and customs, which woke up in him his oldest memories. There must, he thought, have been intermixture between some branches of the Celts and some race resembling the Lapps. "My ethnic formula for the Breton would be," he adds, "a Celt, mixed with a Gascon, and crossed with a Lapp."

In the Aveyron, the Rouergue, or land of the Rutheni, where Collignon finds a breadth index of 83.50,² Durand de Gros says that all the ancient skulls found are long and narrow. The peasants now have invariably broad skulls, but the educated townspeople have not;³ moreover, while the peasants are dark, the country squires, probably of Gothic descent, are generally fair.

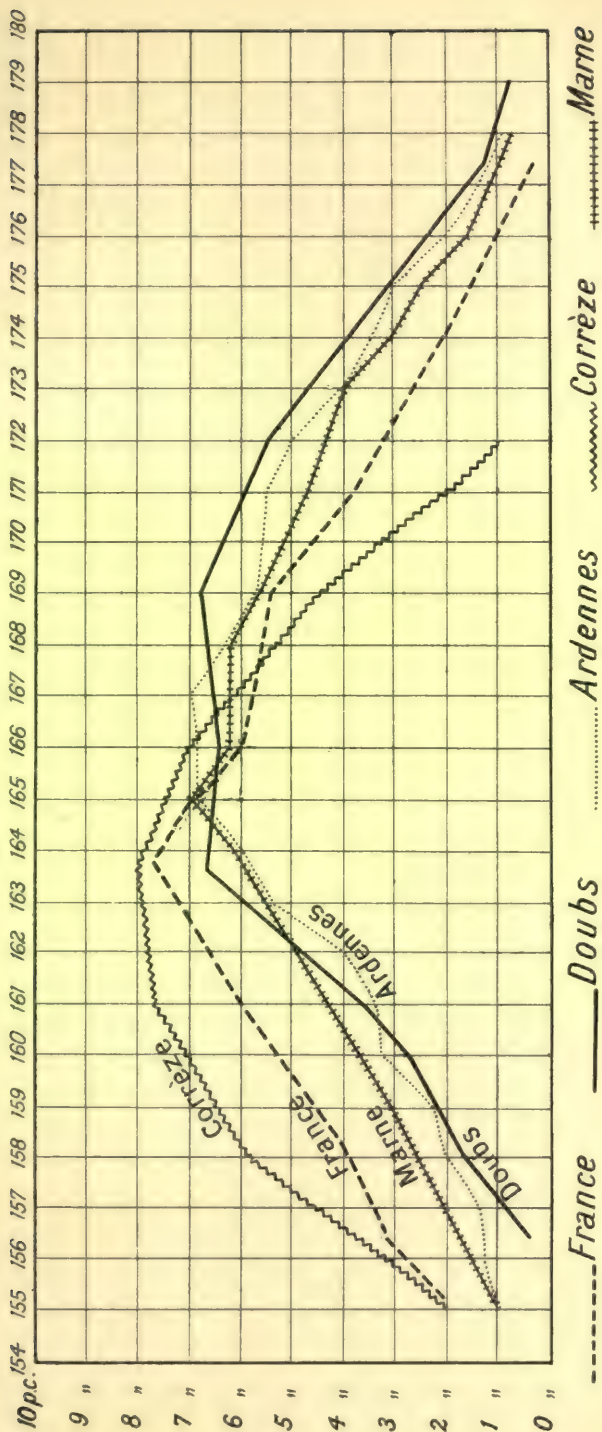
All these facts may perhaps be explicable on the theory of permanence of types; the ancient skulls

¹ *Voyage en Basse Bretagne, etc.* Paris, 1892.

² Reduced from the living, as usual.

³ Lapouge, in the Herault, and Ammon in Swabia, find long heads prevalent in the past, in towns, in the upper and cultivated classes, short heads in the present, in the country, in uncultivated plebeians.

CURVES OF STATURE IN FRENCH CONSCRIPTS Height in Centimetres



preserved may have belonged wholly to a ruling race, who were Galatic; and the short swarthy round-headed peasantry may have existed on the land then and during all subsequent revolutions. But any other interpretation involves extreme difficulty.

LECTURE V.

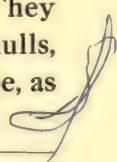
SPAIN, ITALY, AND THE BRITISH ISLES.

Spain and Portugal—De Aranzadi on the Basques—Italy: The Ancient and Modern Romans—The Sards, purest race in Western Europe—The Jews; their original and secondary types—The Gypsies—Brief sketch of the Races of Britain: Specimen districts—Pembrokeshire—The Isle of Man.

THE history of Spain and Portugal is for our purpose comparatively simple, so far as we know it. The famous Gibraltar skulls, described by Busk, are long (75·2). At Mugem, in Portugal, certain crania reported by Oliveira, and believed to be quaternary, yielded the usual greatly discrepant measurements. Two long heads averaged a breadth of 73·8, but three other skulls gave 82·8, 86·9, and 93·4! these last are described as Mongoloid or Lappish in form. Later specimens are mostly long, and MM. Siret and Jacques, who disinterred near Almeria a vast number of the early metallic period, found that most of them were of that modified Cro-magnon type which we call Iberian, and which De Quatrefages and Hamy, describe thus: "Large volume, lengthened form, subpentagonal shape in the 'norma verticalis,' width of face, low or vertically compressed orbits, long and narrow nose (leptorhine)." This description, with little modification, would

apply to a great many Gaels, whether Irish or Scotch.

Subsequent invaders have not probably altered the type very much, except locally and in certain classes. We do not know much about the Keltiberians; nor whether any modification of the true Keltic type can be found in, for example, Aragon or Galicia.¹ All the other invaders of Spain have been dolichocephalic, more or less, whether Carthaginians, Romans (mesocephalic, strictly speaking), Goths and Suevians, Saracens. Of these last, the Berber element, which was probably larger than the Arab, was nearly identical with the Iberian in type, differing most obviously in the form of the nose, which is shorter and broader. The Basques have been supposed to be the purest specimens of the Iberian race; and have been the objects of much scientific curiosity on that account. William von Humboldt thought their language Turanian; and some wicked fellow seems to have sent to Retzius three skulls, which purported to be Basque, and possibly were so, and which happened to be most Mongolically round. Broca, however, got possession of the occupants of a churchyard in Guipuzcoa, and found their skulls were rather long than short, but in the manner called occipital dolichocephaly, *i.e.*, roughly, with a large proportion of the length abaft the ears. They were capacious, larger than ordinary Parisian skulls, and on the whole answered to the Iberian type, as lately described.



¹ Fifty Asturians had a breadth-index of 79·0, thirty-eight Gallegos 77·3. See note further on.

Dr. Telesforo de Aranzadi y Unamuno, himself a Basque of Guipuzcoa, has produced a careful monograph on the physical characters of his own people. I may mention some of his results. He finds the index of headbreadth, corrected, 77.1. The average stature at the age of 21 ranges in different towns and villages from 1610 to 1680, or from 5 ft. 3 in. to 5 ft. 6 in., which is beyond that of southern France. He finds, per cent., of the eyes, 19 blue, 3 gray, 17 green, 18 greenish hazel, 1 blueish hazel, 41 brown; of the hair, 23 blond (rubio), 13 medium, 40 dark brown (castaño), 24 black (moreño). These proportions of colour, having been noted according to Broca's scale, may be fairly relied upon, and indicate a greater tendency to blondness (xanthosity) than might have been expected. Moreover, De Aranzadi's elaborate maps show that the blonds and blue-eyed folk are not confined to the ports or great ways of communication, where recent colonization from abroad might have been suspected; but that they are scattered pretty uniformly through the country. Certainly we have not here arrived at the focus of the brunettes of Western Europe.

In the graphic curve of headbreadth there are two distinct maxima, one at 76 and one at 80, or, in the skull, after reduction, 74 and 78, indicating probably that there are at least two elements in the race. De Aranzadi thinks that there are three, one with dark hair and eyes, rather narrow head, middle stature, broad mandible, nose often concave—a second with green or greenish-hazel eyes, darkish brown hair, a broad head, low stature, breadth be-

tween the eyes, narrow mandible; and a third with blue eyes, light hair, narrow head, straight narrow nose, tall stature. He supposes the first of these to be the true Iberian, and related to the Berber, the second to be Ugrian or Finnish,¹ the third to be a later addition, Kymric or Germanic; and he evidently, but cautiously, indicates the conjecture that this last is related to the accursed race of the Cagots, who used to be relegated to separate hamlets or villages, and had a separate church door for themselves.²

¹ Some would say Keltic. It is common in Bretagne, I should say.

² De Aranzadi, with De Hoyos Sainz as collaborator, has, since the delivery of these lectures, laid a foundation for the physical anthropology of Spain, which, based upon observation of about 450 skulls, from all parts of Spain except the east, gives hopes of general soundness, though the smallness of the numbers from certain provinces does not allow confidence in its details. Spain resembles Britain, apparently, in having no brachycephalic province. But De Aranzadi and De Hoyos detect the influence of broad-headed Keltic invaders on the native Iberian breed, especially in Asturias and Estremadura. In Asturias, where it is greatest, the people are said to be sturdy and thickest, with brown hair and eyes, and with large heads averaging 79 in breadth-index (in the skull). The Berber element, brought in by the Moors, and powerful in the south of Spain, is discriminated by greater breadth of nose from the true Iberian. Olovir has since followed with his valuable and elaborate memoir on the kephalic index, which confirms generally the conclusions already stated. It would seem that the Keltic invaders of Spain must have entered it by the western extremity of the Pyrenees and pushed chiefly in a western direction. The east of Spain must have remained pretty purely Iberian, and is strongly dolichocephalic to this day: the centre and south vary locally, but the indices are either dolicho or meso. The types were probably not much affected by the Carthaginian and Saracen colonizations: the invaders were largely Berbers, and the Semitic Arabs were not widely different.. The extreme length and narrowness of the nose in the finest Highland type of face is mainly attributable, I think, to the Iberian element in them.

Portugal has long had a peculiar interest for us Englishmen. It was with English aid and guidance that she won her independence at Aljubarotta, the Portuguese Bannockburn, against the Castillians and their French allies. The northern Portuguese are, I believe, much like the Gallegos, a Keltiberian race with some admixture of the Germanic Suevian, who filled in the North-west of the Peninsula the rôle which the Visigoths played elsewhere. But the heroic race of Lusitania, the conquerors of Brazil, of Abyssinia, of Congo, of Mozambique, of the Indies, were exhausted in those mighty efforts; and the southern Portuguese, especially the townsfolk, are said not only to be largely of Moorish and Semitic blood, but to have greatly degenerated.

In Italy, as in most other countries, the skulls with any pretensions to quaternary date are mostly long, but very broad ones do occur among them.

A little later a number of skulls found in various parts of North Italy, and studied by Nicolucci, give indices running up to very high figures, and have furnished the basis for the construction of what is generally called the Ligurian type, a very broad form resembling the Keltic, but distinct in facial features. In the Bolognese succeeded each other the Umbrian populations (heads broadish), the Etruscan (mesokephal, about 77-78, rather Semitic in appearance), and the Keltic or Gallokeltic (broader again). The modern heads are yet a little broader, and better developed anteriorly. But about Rome, Nicolucci has brought out a striking fact. The heads of the old Romans were of a fine type, well balanced,

well rounded, yet boldly outlined, full alike in temples and occiput, giving one somehow the idea of strength and practical ability—at least one thinks so. But their main dimensions are exactly the same as those of the modern Romans.

Ancients, . . . Breadth, 78·1. Height, 73·8.

Moderns, . . . Breadth, 78·2. Height, 73·2.

No advance here certainly; but perhaps one might rather have expected retrogression. For the old crania that have been preserved for us were not those of slaves and proletarii, whereas the modern ones are probably for the most part of low class.

The history of Italy is that of successive waves of invasion *from* the north, mostly, however, spending themselves *in* the north. The fertile and attractive Sicily was the object of desire and prey to every ambitious or predatory race, from the Carthaginians and Greeks, to the Saracens, Normans, French, and Spaniards. But in Calabria, Corsica, Sardinia, probably the first occupants, Mediterranean, Iberian if you will, are still the preponderating element. They are short, dark, well formed, and decidedly long-headed. In Sardinia, where they are most free from admixture, the skull breadth averages 72·8, and varies little. Nine ancient Sards gave one of 72·5, practically identical. The hair of the Sards is said to almost always black: the stature of conscripts at twenty years is but 5 ft. 2·6 in. (159 cm.¹); while the Sicilians, of more mixed blood,

¹ Livi. This seems to be about the average: it varies in the nine districts from 5 ft. 1·3 in. to 5 ft. 4 in.

rise to 5 ft. 3'3 in. Throughout Italy the stature may easily be accounted for by considerations of race, but hardly in any other way. Thus the Piedmontese, Kelto-Ligurian, and very broad-headed (83 to 89, living index) are short (5 ft. 3'8 in.—162 cm.), the Venetians, mainly Illyrian, with a little of the Lombard, are broad-headed too (84'8 to 85'5), but much taller (165 cm.—5 ft. 5 in.),¹ thus resembling their neighbours and kinsfolk on the north-east of the Adriatic. In the south, as well as in the islands, narrow heads and low stature prevail, though the stature does not vary exactly in accordance with the head-breadth. There are some anomalies, especially in Central Italy, which we are quite unable to explain. Thus the very highest average stature (166'25—5 ft. 5½ in.) occurs in the neighbourhood of Lucca, but in combination with a rather long and narrow head; while on the other hand there is a district extending eastwards from Gaeta along the coast, where the inhabitants combine a shorter stature, a narrower head, and a distinctly lighter colour² than those obtaining in any neighbouring district.

This may be the best opportunity for the consideration of the physical type of the Jews. As is the case with so many other people whom we have had to discuss, the two most usual physical tests of race, namely head-breadth and hair-colour,

¹ Ridolfo Livi, *Statura degli Italiani*. L'Indice Cefalico degli Italiani.

² The frequency of blonds was remarked by Dr. Hodgkin as well as by myself. The area was that of the Volsci, I believe.

when applied to the Hebrews, seem at first sight to result in complete failure; but it is only at first sight. The Jews are generally what Huxley calls *melanochroi*: that is, they are white men with dark hair. But there is everywhere among them a proportion of blondes, and a quite notable one of red-haired or red-bearded individuals. As for their skulls, there are two well-marked types; one, and probably the original, is the one we are more familiar with: it is long, oöidal, rather narrow in forehead, and resembles the Arabian very closely, as might have been expected. The other is larger and much broader, and is found chiefly in countries where the prevailing Gentile type is broad. The natural interpretation of these facts is, that the Jews are a much less purely bred population than they are generally supposed by themselves and others to be; and that, wherever they are, they take in sufficient of the surrounding anthropological elements to assimilate their form of head to the prevailing one. The former of these statements is doubtless correct, but not the latter. It is true that there have been periods and localities—the Gothic period of Spain, for example, that of the Khazar empire in southern Russia, and the early period of Hungarian history—when proselytism prevailed, when conversions to Judaism were common, and intermarriage occurred frequently. But for many centuries such has not been the case unless to a very trivial extent, and conversions in the other direction can only have tended to Judaize the Gentiles, not to Gentilize the Jews. The facial

features of the race, again, are very characteristic, and are almost as universal among the brachycephalic as among the dolichocephalic Jews, fining down a little, but still noticeable, in the blonde variety.

Roughly speaking, the Sephardim or Spanish Jews belong to the long-headed; the Ashkenazim or German, Polish, and Russian Jews to the broad-headed type; but not only the Dutch, but the north-west German Jews must apparently be counted with the former: thus the indices of breadth in the small collections of Gottingen and Amsterdam are both 77 or 78, with moderate elevation. In London, Messrs. Jacobs and Spielman, the former in two elaborate papers,¹ have devoted attention to these points. Curiously enough, they seem to deem it needful to make a kind of apology for the presence among their fellow-people of so many longheads, as though they were an inferior race. This is a kind of sign of the times: the broader-headed Ashkenazim are crowding in: formerly the Sephardim were the more respected, and they certainly have the original type. The Italian Jews are Sephardim, and those of the Levant belong to the same class: they are sometimes blonde and often red-bearded, more often than is the case with any other of the numerous races mingled in those parts, so that they can hardly have acquired this character from their neighbours. Ikow found the index of breadth in

¹ *Journal of the Anthr. Institute*, Vols. 15 and 19.

the Jews from south of the Balkan only 74·5.¹ They are in large proportion descendants of the Spanish Jews, once so numerous and influential in that country, and so ruthlessly persecuted and expelled by the Catholic sovereigns: most of these were hospitably received by the more tolerant Musalmans.

Now for the other type. It is not recent, for Kollmann of Basel found, in a collection from an Israelite cemetery of mediæval date, a very high index. It does not vary up and down with the index of the neighbours, for Majer and Kopernitsky found it 81·5 in Galicia, whereas that of the Poles is 82·4, and of the Ruthenians (Red Russians) 82·3;² and Stieda and Dybrowski found it 83 in sixty-seven Jews of Minsk, near the Lithuanian frontier, where the index of the natives is pretty surely less. Ikow in Russia found it 81·3, Blechmann something more. It is evident that the true Syrian-Hebrew type is in a decided minority. The Karaites of the south give an index of 83·3: they show distinct signs, especially in their broad flat faces, of Tartar admixture, probably dating from the time of the Khazars, whose Khan with many of his people long professed Judaism, and that as early as the eighth century. The breadth of the skull is exaggerated in the Karaites, as I believe it to be in some other little-suspected cases, by the use of a cradle-board in infancy.

¹ *Archiv für Anthropologie.*

² After the proper deductions for the soft parts.

There is not time to discuss the facts which are cited by Ikow from Halevy, and which indicate that Jews, coming probably through the Caucasus from Babylonia and Persia, were already in Russia in the first century of our era, and that the type which now prevails among Russian Jews is derived from the various Assyrian, Armenian, Iranian and Caucasian people among whom they dwelt and proselytized during the centuries after the captivity, and in the course of their northward progress. The only considerable difficulty that remains is the occurrence of the broad large head among the mediæval Jews in Paris¹ as well as in Basel. Had the Russian Jews already begun to press westwards; or was it purely a result of proselytism from the Kelts?

As for colour, there is an approach to a national type, which causes the Jews to rank as a dark race among the fair people of northern Europe, but as a fair one in the Levant. The frequency of red hair among them is curious: it has been noted almost everywhere, though it is nowhere so extremely common as some would have us believe. But there is much red pigment in the hair of all Jews whom I have examined; though usually the abundance of dark pigment obscures the fact. Jacobs therefore suggests that the flagrancy of red hair among them is due to some defect of nutrition, whereby the common dark pigment is not secreted. This explanation, so far as it is one, would obviously apply to other rufous races also. I long ago suggested²

¹ *Crania Ethnica*, p. 513.

² *Phys. Char. of the Jewish Race*. Ethnol. Transactions.

that the Jews might have inherited the red colour from the Edomites, the descendants of Esau, who were ultimately incorporated ; but Jacobs very truly remarks that we have no proof that the Edomites were red-haired. The redness indicated by their name may have been the colour of the soil, or the tint of skin. Professor Sayce has put forward a most plausible conjecture. The Egyptians represented the Amorites as red-haired; and their remains were almost certainly incorporated by the Jews.

The history of the Gypsies should be interesting to Scotchmen, as owing to the character of the country in former days, which rather invited those so disposed to a wandering life, Scotland was a favourite resort with these extraordinary people. The earliest notice that we have, which can possibly refer to them, is the account given by Herodotus of the Sigynnæ, who in his day occupied Hungary : he gives a particular account, often quoted, of their little hairy ponies, not fit for riding, but swift in drawing chariots. The names Sigynnæ and Zigeuner must assuredly be one and the same : it is not easy to explain how it came to be given, after the lapse of so many centuries, to a people having no connection with the one which first bore it ; and it is curious that the Gypsies should to-day be most numerous precisely in the old territories of the Sigynnæ. The difficulty would however be much greater of getting over the statements of their having first appeared in Europe after the ravages of Tamerlane in India. Their presence, and numbers and conspicuousness in Scotland were made use of,

some years ago, by Mr. D. M'Ritchie, who wrote a work on Scottish ethnology, in which he treated them as the remains of a primitive dark race (Allophylian, perhaps, rather than Turanian), once numerous and even powerful, but bearing to the civilised inhabitants the status of outlaws, a kind of relation like that of the Iliyâts in Persia to the Tajiks, or rather, perhaps, that of the Bushmen to the other inhabitants of South Africa.

The ballads and traditions about Johnny Faa, Lord of Little Egypt, and the Countess of Cassilis, are curious:—

‘ And we were fifteen well-made men,
 Altho’ we were na bonnie;
 And we were a’ put down for ane,
 A fair young wanton leddy.’

Here comes out the popular dislike to a swarthy complexion, with a testimony to the unmistakable beauty of physical frame which characterises these people, their lithe, light graceful bodies, whose mould was formed, centuries ago, in a warm outdoor climate, but remains unaltered in the damp chilly north. Their complexion does not seem to have changed much: apparent exceptions may well be ascribed to admixture by adoption. Kopernitsky has written an elaborate paper on their form of head and face, which is thoroughly Indian. The skull is oval, rarely elliptical, the forehead being narrow and the temporal regions flat, so that the cheekbones, though not really wide, stand out. The face is rather long, there is a slight degree of prognathism of the upper-jaw, the nose is long,

narrow above and gradually and regularly widening downwards, a very characteristic feature. The index of breadth is 77·1, of height 75—very good proportions; but on the whole the skull is small.

Now at last we come to the British Isles. I find it impossible to put into a lecture what I have had some difficulty in compressing into a moderate-sized volume. I will, therefore, simply give a very brief sketch of the history; and then enter into some details regarding a few specimen districts, much as the scholastikos who wished to sell his house exhibited a brick from it as a sample. I will say nothing about eoliths or their hypothetical producers. Any opinion I may have of them can have very little value; and they cannot be said to enter into the domain of history.

Britain has received its successive populations, as it has accepted its fashions, from the neighbouring continent, and has, therefore, always been behind-hand in these respects. We had our palæolithic men, our people who used implements of unpolished stone, perhaps a little later than the beginning of the rude-stone period in France, but still in the time of the great extinct mammals. But we have no absolutely indubitable osseous remains of them. The Galley Hill skull, for example, is dated later by some people. The human remains discovered in the Cattedown Cave, near Plymouth, by Mr. Burnard, have a strongly probable palæolithic date, and a by no means low or degraded type. Boyd Dawkins thinks our palæolithic men may have been Eskimo,

or of Eskimoid type. Did their posterity survive in these islands? I believe they did, and do still; but he thinks otherwise, and his opinion is of course weighty.

We are accustomed to say that during the neolithic period there was but one race of men in Britain, that whose remains have come down to us in the long barrows or galleried tumuli, and which has been frequently described by anthropologists, generally with a comparison to the Basques. They have a considerable likeness to the grave-row skulls: their breadth index, for example, is about the same: thus Thurnam gives it at about 71, but Barnard Davis's figures work out to 72.8, which is probably nearer the real average. The height, also, as in the Grave-row type, is apt to exceed the breadth: the length often or usually depends more on occipital than on frontal development. Points of difference are, that the outline of the Grave-row or Germanic forehead, in the vertical aspect, is usually more convex, while that of the neolithic British forehead is flattened and square: the German face, too, is rather more apt to be prognathous. To your own townsman,¹ Sir Daniel Wilson, now of Toronto, is due the credit of the discovery that the primitive longheads in Scotland preceded the broadheads, and were probably a different race. The late Dr. Thurnam afterwards took up the idea, and went far towards proving that it was correct for

¹ These lectures were delivered in Edinburgh, and before the lamented death of my friend.

England also; and his name is more generally known in connection with the discovery.

Now, it is curious that Sir Daniel Wilson selected—and figured in his beautiful work on the Prehistoric Annals of Scotland—two crania as specimens of this earlier race, in both of which the frontal region has the Germanic rather than the Ibero-British form. And he proposed for them the name of kymbekephalic—boat-shaped—which appears to me by no means applicable to most of those I have just called Ibero-British. It was intended, I take it, to imply a form highly convex, rather than squared, in forehead as well as occiput, with possibly a carina or heel running along the sagittal region, and giving it a roof-like contour. It is conceivable, then, that there may have been an ethnic difference between the neolithic inhabitants of the northern and southern parts of the island; the former may have belonged to, or at least may have resembled the Canstatt type or stock, the latter the Cromagnon. Mr. Anderson, however, points out that the horned cairns, so numerous and remarkable in Caithness, are present from north to south of the whole island, and may be an index of the presence of one race throughout. Those in Caithness have not, I believe, yielded measurable crania, except one from the cairn of Get, with an index of 76·5, figures beyond the usual upper limit of British neolithic people.

Linguistic evidence, as Professor Rhys has shewn, indicates the presence of an Iberian form of speech in ancient Scotland; and there are those who find traces in our island of a Turanian speech, but no

one nowadays, I believe, finds any of a prehistoric Teutonic one. Again, the cave-men disinterred by Boyd Dawkins in North Wales, and particularly the skulls from Porth-y-chwareu figured by him, seem to me to differ considerably from the common British neolithic type, not merely in breadth but in physiognomy. I have pointed out, in my book on *The Races of Britain*, the existence in our modern population of two distinct types, scattered in small numbers over a great part of the west of the British Islands. These I call Mongoloid and Africanoid: the former is probably descended from the race of Furfooz in Belgium; the latter may be an Iberian variety; but its prognathous character separates it from the ordinary long-barrow type, which it otherwise much resembles. It presents, as a rule, blue or grey eyes with dark curly hair, while in the Mongoloid type the eyes are brown and oblique, and the hair brown or dark and straight. If the absence of the latter from neolithic interments be objected, I must answer that serfs are rarely admitted to consort with their lords either after or before death, though occasionally they may be slaughtered in order to accompany a chief to the other world.

Next came the race which in these islands—not elsewhere—is identified with the importers and users of bronze. It was robust and tall, according to Thurnam, not less than 5 feet 9 inches (1752 m.m.) in stature, though some later authorities think this an exaggerated calculation, bony, large-brained, harsh-featured, high-nosed, with prominent brows, and a breadth index over

80. I believe Park Harrison to be right when he affirms that in our times the majority of people with these characteristics have light hair and long adherent ear-lobes. They resembled the Borreby race of Denmark, and the Sion or Helvetian race of ancient Switzerland, though with somewhat larger breadth. And men of this type, but perhaps generally dark-haired, abound among the Walloons of southern Belgium. Our race may have come from Denmark or from the north of France, or from Belgium; and it may have brought with it an Aryan language of the Keltic species. Deniker, and perhaps others, find a resemblance between this type and the modern Illyrian one; but the geographical remoteness of the two is a difficulty. I confess I cannot at all clearly make out from the relics of interments a Gaelic and a Kymric-speaking race. For if these bronze-folk brought the Gaelic their descendants ought to abound in Ireland, which I do not think is the case nowadays. Perhaps they may have been the ruling race there for a time, but have been gradually worked out by continual warfare and slaughter. They were apparently a permanent breed resulting from a cross of the blond longheads with the Kelts, and this, again crossed with the Iberians, seems to form a large element in our Highland population, particularly, I think, in Athol. An important anomaly occurs in the East Riding of Yorkshire, where much investigatory work has been done by Canon Greenwell and Dr. Wright, and especially by Mr. Mortimer, founder of the Driffeld Museum. In that region,

round barrows, instead of yielding only broad skulls, seem to hold long and short ones indiscriminately, and the owners of the latter seem to have been no taller, if even so tall as those of the former.

Mr. John Gray thinks he is able to separate a distinct short-headed breed who buried their dead in short cists and who were of short or moderate stature. One such interment was found at Harlyn Bay in North Cornwall, among a community of long or middle heads: this was probably late Keltic.

What and how many may have been the subsequent immigrations from Belgic Gaul we have no craniological evidence to show. The practice of cremation is no doubt to some extent responsible for this lacuna. Sir Daniel Wilson thought that another long-headed race, which he called Keltic, succeeded the bronze folk in Scotland; but it is likely that by that time there was no great mass of dolichocephali left in Gaul whence these could have been derived; and that Wilson's Kelts were the result of the mixture of earlier races. Wilson's ideas were but guesses; he had little material, but they were very clever guesses. Of the colonization or rather conquest of Ireland by a Keltiberian race from Spain, though I strongly believe in it, I am not able to say anything from this point of view. It is in Kerry that I have found the Keltiberian aspect most common. With the Roman occupation it is much the same. The racial elements which they imported must have extremely mixed, and probably left scarcely any permanent traces, though there may be some in a few ancient towns such as


Gloucester or Leicester. Among relics from the Romano-British villages, our knowledge of which has been so much increased by General Pitt-Rivers, there are one or two skulls which, in the opinion of Dr. Garson as well as of myself, show Roman or Italian characteristics.

It may be doubted whether the Anglo-Saxons, at the time of their arrival in this country, which I for one believe to have been in the fifth century, were anything like a homogeneous race. The Frisians were largely represented among them, and the form which Virchow considers Frisian occurred among them, and is common among their descendants still. For my own part, I doubt whether this broader Frisian or Batavian form is anything but a variant of the ordinary Germanic, developed perhaps under peculiar conditions. At Bremen the two forms occurred, according to Gildemeister, in the earliest days of the city. Among the Anglo-Saxon crania figured by Davis and Thurnam (perhaps I should say Saxon, as they are all from the south-east of England), those of Wye Hill, Litlington, and Brighthampton exhibit the Grave-row type, those of Harnham and Linton and Firle, something more of the broader and lower Batavian, with the more rounded occiput; that of Fairford is a palpable mixture of the Saxon father and British mother, the former giving the brain-case, as Davis himself suggested. John Bull is of the Batavian type: the Grave-row, that of the barbarian warrior, is perhaps rather more aristocratic; but the outlines of the former may be connected, as Virchow thinks pos-

sible, with the obstinacy and love of freedom and individuality of both Frisian and Englishman. "These men," said an old chronicler of the Frisians, "been high of body, stern of virtue, strong and fierce of heart: they be free, and not subject to lordship of any man; and they put their lives in peril by cause of freedom, and would liever die than embrace the yolk of thralldrom."

The Scandinavian invasions increased the proportions of the blond types in most parts of England and Scotland. Perhaps invasions is hardly the appropriate term, for in some cases it is clear that peaceful and gradual colonization followed the invasions and ravages. The distinction made by the Irish between the Danes and the Norwegians, the former of whom they called Black, the latter White Strangers, is a matter of curious interest and difficulty. For the Danes too are generally light complexioned, though dark hair and eyes are not so uncommon, especially among the women. Frequent features in the modern Scandinavians are the spade or scutiform outline of face, with rather broad (but not prominent) cheekbones and a long sweeping curve of the lower jaw: this is very notable in Cumberland and in Lewis, for example. Sometimes the profile is classically straight and fine. Theinion (or occipital tuberosity) is apt to be placed high; and the upper part of the occipital region in such cases has not the projection which it has in the Hohberg type.

Subsequent to the Scandinavian colonizations were the Norman conquest of England, the so-called



Saxon conquest of Scotland, the Anglo-Norman conquests of Ireland and Wales, the infiltration of the south and east of England with French settlers, especially in the towns, the colonization of south Pembrokeshire by the Flemings and west-country English, that of Ulster by the English and Scotch, the later French wave of the Huguenot refugees, in the same area as the former one, and several less important racial movements. The tendency of the still more modern movements of population is chiefly from the poorer to the richer districts: thus the Welsh have gradually infiltrated the west central and the Scotch the northern parts of England, the Highlanders have crowded into Glasgow, and, above all, the Irish into the towns of Great Britain. On the whole, the proportion of the Teutonic element and character in the Sassenach has been lessened, in the south-east by the intrusion of the small dark round-headed Kelt, and elsewhere by that of the Kymry and the Gael.

I will now proceed to examine with some minuteness two or three specially interesting districts. The ethnology of Pembrokeshire is perhaps more complicated than that of any other part of the principality. The best authority upon it is without doubt the work of Mr. Edward Laws, *The History of Little England beyond Wales*.¹

We have evidence there of the presence of the usual neolithic stratum, and of that of the brachykephalic bronze race, but very little of

¹ London : George Bell & Sons, 1888.

Roman occupation. Subsequently to the close of the Roman period we find the land harassed by the incursions of the Gwyddel Ffichti, the Gaels from Ireland. Whether the people thus raided on were themselves Gael in language does not appear certain; but if they were not, the occurrence of Gaelic settlements from Ireland becomes all the more clear. Kymric influence, however, gradually prevailed in the matter of language, and must have been accompanied by a considerable infusion of Kymric blood, which was not, however, sufficiently powerful, Laws thinks, to bring about the absolute enslavement of the Gaels and Silurians, as it was in North Wales.

The next large element added was that of the Scandinavians. We hear more of their raids than of their settlements, but there were occasions when they came as allies of the Welshmen against Saxon or Irish enemies, or as allies of one Welsh chieftain against another. Sometimes, no doubt, they settled down as traders, or made their fortunes by marriage, as Kol the Burner, of Iceland, was about to do (so we learn in the *Njalsaga*), when his plans and his life were cut short in a Welsh market-place by his avenging countryman Kari Solmundson.

Mr. Laws reckons no less than 93 Norse place-names in Pembrokeshire, though a few of these are in my mind doubtful. He puts the question, with respect to the occurrence of the terminal "ton" in conjunction with Scandinavian personal names (as Herbrandston, Lammaston) whether it is due to a contemporaneous or a subsequent immigration

of Englishmen. I should think it was probably contemporaneous. Pembrokeshire has been much ravaged and perhaps depopulated by Irishmen and by so-called Danes. Ostmen and Irishmen from Wexford and Waterford may have been filtering in, as their kindred seem to have done into Cumbria from the Isle of Man, while in alliance with them English exiles, fugitives before the Conqueror perhaps, nay, possibly relics of the army of the sons of Harold, may have settled down side by side.

The next intrusive elements were introduced by the Norman conquest of Pembrokeshire, and included Anglo-Normans, with a following no doubt partly English, but very largely Flemish. The extent of this Flemish colony has been much disputed; but there seems to be distinct evidence of three separate settlements, in 1107, 1113, and 1155 or thereabouts, and although numbers of the colonists perished in desperate and repeated struggles with the native chieftains, they are frequently mentioned by the Welsh chroniclers in later times. Giraldus Cambrensis speaks of them as "brave and doughty, hating and hated by the Welsh, well versed in commerce, clever woollen manufacturers, adventurers, ever on the look-out for the main chance, and willing in the pursuit of it to undergo fatigue and danger by sea and land; in a word, excellent colonists."¹

All these settlements took place chiefly in the southern and more open and fertile part of Pem-

¹ Laws, p. 115.

brokeshire. In the north-east the hilly moorland region of Cemmaes was conquered indeed by the Normans, but not largely colonised; curiously enough, their dominion there seems to have been seldom disputed; but matrimonial alliances soon turned them into Welshmen, and after a few generations we find the lineal representative of the Norman conqueror bearing the very Kymric name of Jevan ap Owen.

But in the south the results of the continual and savage contests were probably also rather unfavourable to the colonists. Not that, after the first arrival of the Anglo-Flemings, peaceful admixture was very great, but that in warfare of that kind the more civilised people could suffer more heavily, their castles not being sufficiently numerous and strong to make up for the comparative want of natural strongholds in their more open country. Moreover, their territory was small and isolated, that of the Celtic speaking enemy comparatively large; and the effects of immigration are generally more notable in the smaller of two adjoining countries, for an obvious reason. After the establishment of peace landholders with Welsh names begin to appear in the south of the country, and no doubt their presence implies that of dependents of their own race or nation. Meanwhile, the colonists, after the partial conquest of Ireland which they accomplished under Strongbow in the latter part of the twelfth century, were diminished by the swarms which they sent off to that country. There the people of Forth and Bargy, the two southernmost

baronies of the shire of Wexford, who speak a curious old-English dialect, are doubtless in great part descended from those of "Little England beyond Wales"—a swarm from a young hive, a colony in the second degree. The line of division between the Saxon and the Keltic halves of Pembroke-shire is still pretty sharply drawn, and has not varied far for centuries, though it is now beginning to recede. It runs, or did run not many years ago, from a point between Roch and Brawdy on the north-east side of St. Bride's Bay, in a curve convex to the north, to the most projecting point of the Caermarthenshire border, passing north of St. Boswells and Bletherston. South-east of this projection, and separated by it, three parishes in Narberth Hundred, Llandewi, Llanvalteg and Llampeter Velfry, are also Keltic.

Mr. Laws instituted a census of the colours of school children's hair and eyes, and was successful in securing the co-operation of fifty-two schoolmasters, well distributed over the whole country. The number of children examined was 4,151, of whom 1,350 were in Welsh-speaking schools: the method employed was my own, the children being divided into fifteen sets, the eyes being noted as light, neutral or dark, and the hair as red, fair, brown or neutral, dark or black.

This is the method which has been adopted by Topinard in his great census of the departments of France, but with the further improvement of certain patterns or standards indicating the shades which are to be characterised as neutral or medium in eyes,

and brown, chestnut (chatain), or medium in hair. This plan of Topinard's no doubt mitigates the liability to eccentricities of the observer which is the great and not wholly avoidable fault of the procedure, and which I denote briefly as the personal equation of the observer. Another fault is this: though the colour of the eye does not change much with advancing years during childhood, the colour of the hair usually changes considerably. Thus red and yellow may become brown, and red sometimes quite a dark brown, dark brown shades may become blackish, and many browns take on a rather darker shade. It follows that statistics derived from children cannot be usefully compared with those from adults, nor even those from infant schools with those from advanced classes. In the present case, however, the average age of the children probably did not vary much in the several schools.

The results of the enquiry were not exactly what I had expected. Mr. Laws and I had both looked for figures indicating a comparatively large excess of dark hair in the northern half of the country. An excess indeed there was, but one of only 6 per cent., the proportion of dark hair being in the northern or Welsh half 32·7 per cent., in the southern or English one 26·6 per cent. The excess of black hair among the Welsh is indeed large, nearly double, but there is also a moderate excess of red and fair hair, with a great deficiency of medium shades, and a moderate one in dark eyes. As all these numerical relations more resemble the Irish than those of the Silurian, or south-eastern Welshmen, I am inclined

to diagnose the presence in North Pembrokeshire of a very large Gaelic element; and it is noteworthy that Mr. Laws, like Bishop Basil Jones, had arrived at the same conclusion from totally different grounds, historical or philological.

When we examine the figures for the six hundreds separately, some interesting details come out. Castlemartin, which includes the peninsula to the south of Milford Haven, though entirely English in speech, comes out with a small proportion of light hair. This is not really strange, however: the west country English, the near kinsmen of these colonists, are mainly of British origin, and dark-haired. The local names here are not so indicative of Scandinavian or Flemish settlement as those in the Hundred of Roos, around Haverford-west. Accordingly Roos comes out with a large proportion of light and medium brown hair, but little dark, and very little black: the proportion of dark eyes is also rather small. With Roos we may advantageously compare Cemmaes (pronounced Kemmés), which occupies the north-eastern part of the county, and owing to its poor soil and rough elevated surface has, as before noted, been little disturbed by colonization. Cemmaes has 15·4 more of dark brown hair, in 100 of all colours, than Roos; it has four times as much of black hair, three less of fair, and 16 less of medium brown shades. The combinations of dark brown or black hair with blue, light grey or dark grey eyes are remarkably prevalent in all Gaelic countries, belonging perhaps to the ancient race of Cro-Magnon, but certainly to a stock long ago thoroughly

incorporated with the Gaels. Of these combinations we have 27·4 per cent, in Cemmaes, and only 9·7 in Roos, or about one-third; and of those including black hair 29 per 1000 in Cemmaes, and only 2 per 1000 in Roos.

Thus, on minute analysis, the present distribution of colour, though not very striking at first sight, is full of meaning: it accords well with the probable history, and gives us additional assurance of the potency of the Norse and Flemish, and of the Ibero-Gaelic or Irish element in Pembrokeshire, which local names and history suggest.

In the Isle of Man the problems of anthropology may be said to be reduced to very simple forms. We know, in fact, nothing, or hardly anything, of the prehistoric anthropology of the island; but a great deal of the later facts bearing on its race-history. The earliest population of which we are aware was evidently Gaelic in speech and in mythology, and with the exception of a doubtful and in any case transitory conquest by the Northumbrian Angles, it has scarcely ever been interfered with, except by being overlaid by successive strata of Norsemen, either pure, or more or less mixed, already, with Irish and Hebridean Gaels. The presence of certain surnames, as Mr. A. W. Moore has shewn, indicates that there was a considerable immigration from Ireland in the fourteenth century, but it was rather Anglo-Irish or Ostman-Irish than purely Gaelic, and did not, probably, alter the race-proportions materially.

I think it is not unlikely that at one time the

Norse element preponderated, but that it fell back into a minority owing to its being drained away into the Norse colonies in Cumberland, Westmoreland and Dumfriesshire. Vigfusson and Savage, in their readings of the Manx Runic inscriptions, whose supposed date is somewhere about A.D. 1200, find 18 Norse names of men and 5 of women, 14 Gaelic of men and 3 of women,—altogether 23 Norse to 17 Gaelic, 57 per cent. to 42; but the persons commemorated or mentioned were doubtless of the wealthier class. As Vigfusson and Savage say, "The speech, we believe, was all along bilingual. The masters would speak Norse: the law and all public transactions on the Thingwall and elsewhere would be in Norse; but the household servants would speak Gaelic—just as we find English and Gaelic within the same family in Iona and the Hebrides at the present day. At the separation from Norway in the thirteenth century, the root was cut off from under the Norse tongue, and the Gaelic obtained; just as under our own eyes the English is now supplanting the Manx Gaelic."

The legal arrangements retained much of their Norse character, but the language, as has been just said, remained Gaelic with a little admixture of Norwegian words, and the place-names were in great majority Gaelic; while the surnames were mostly pure Gaelic, and the remainder Norse Gaelicized; thus Kewley for Macaulay or Olafson, Corlett for MacThorliod, Qualtrough, as I suppose, for MacWalter or Waterson, Corkhill for MacCorkill, for MacThorketil or Thorkelson.

The only Manx crania of any pretensions to antiquity which I could see or hear of, were two in the possession of Dr. Clague of Castletown; they had been found in excavating foundations at Scarlett, and were probably mediæval. They both showed something of the Gaelic type; their indices of breadth were respectively 75·6 and 80·6.

One would expect, judging from these data, and from the length of the period which has elapsed since any new element of consequence has been added to the population, to find in the modern Manx folk a tolerably homogeneous type, compounded from a Scandinavian and from (what I call) the Gaelic type, though leaning perhaps rather more towards the latter, and occasionally varying into pretty pure specimens of one or other of its elements. Now the Manx population answer pretty exactly to this expectation; they are just what they ought to be, anthropologically. There is a good deal of likeness between them and the Cumberland folk, on the one side, and between them and the people of Lewis and Harris on the other. They are tall and stalwart, with oblong heads yielding an index of breadth of 77·6; in that and in other principal measurements their heads take a place between those of Norwegians and those of Scottish and Irish Gael, inclining however rather more towards the latter. The greatest difference from the former comes out in the greater length of the naso-inial arc, which is connected with a greater prominence of brows and of occiput, as well as with an apparently lower position of the inion. The

breadth and flatness of the cheekbones, flatness rather than prominence, is decidedly Norwegian rather than Gaelic. The face is usually long, and either scutiform or oval; the former is the outline most prevalent among the Scandinavians, the latter among the Scottish Highlanders and Western Irish. The nose is almost always of good length; in outline it is oftener straight, less often sinuous than among the Highlanders and Irish. The influence of the Norwegian cross is shewn also in the colour of the hair. Red hair is not frequent nor very bright; fair and light brown hair are very common; and the index of nigrescence is decidedly lower than in most parts of the Highlands or of Ireland. The distribution and combinations of colour have more resemblance to those found in some other Scandio-Gaelic districts than to most others in my schedules; such districts are Wexford, Waterford, some of the islands of the coast of Argyle, and perhaps the Lewis. But the exact proportions of hair-colour, together with the great frequency of neutral eyes, are not produced anywhere else. Blue eyes are less common, I think, than grey; and dark shades of grey, varying towards green and brown, are frequent. What are called "black" eyes are rare. The hair is pretty copious, straight or wavy, seldom strongly curled or very brightly coloured. I measured thirty-one heads, all of which belonged to people of long local descent. If called upon to classify them, I should say that out of the thirty-one, one was distinctly Turanian in type, one belonged to the British bronze race, one was pretty

purely Iberian, and one anomalous; that one was pretty purely Teutonic (the Grave-row type of Ecker, the Hohberg, or between the Hohberg and the Belair, of His and Rutimeyer, the Germanic of Von Hölder), and that three more were very nearly so, while at least four presented decided Gaelic types; and that the remaining nineteen were what I have called Scandio-gaelic. Thus amalgamation of the two principal constituent elements would seem to have gone so far that nearly two-thirds of the population, if I may judge by my specimens, belong to a newly compounded Manx type, while the remainder are to be considered as reversions, or as belonging to the original elements, which have hitherto resisted amalgamation. The Turanian and two of Gaels belonged to the secluded southern hamlet of Craignish, while three of the Teutons or Norsemen were born in the north of the island. I have little doubt that Craignish was a habitation of thralls, and my Turanian may be the descendant of a captive, brought from possibly, Lapland or the White Sea.

Mr. A. W. Moore, whose loss the island has had to deplore, produced among other papers one grounded on my figures and on the local nomenclature, in which he demonstrated that small as is the island the race type has not become homogeneous everywhere, but that the Scandinavian element is still more potent in the neighbourhood of the easiest landing-places, and less so in the rougher or more remote parishes, the "back blocks," as an American might call them.

LECTURE VI.

SCOTLAND, WITH GENERAL CONCLUSIONS.

Considerations of special districts, such as Berwickshire, an Anglian, and Ballachulish, a Gaelic locality—Difficult and doubtful points in British ethnology—Possible effects of urban life—Growth and decline of races and types, and their probable future.

I.

IN considering the mediæval history of Scotland, one meets with mysteries ethnological as well as political. I had the advantage of coming after Professor Rhys in this Chair, and I have learned much from him; but nevertheless, it remains a mystery to me how the Pictish language came to disappear. That it was a Keltic dialect, but with Iberian elements, I entertain little doubt; that the language of the majority often gives place to that of the minority, when the latter has some decided advantage, religious, social, or political, over the former, I am well aware; but here it is apparently a question of two races of barbarians on something like the same level, so far as we can see. In fact one would be inclined to say that the Brythonic language of Strathclyde ought to have had the best chance of the three, on the score of civilization. I

can only suppose that the true Scots were really, what some of the early Irish writings and traditions portray them, a very highly gifted race, psychically as well as physically, and that this superiority told in their favour in the linguistic struggle, in spite of the difficulties interposed by a rugged and thinly peopled country, vexed by continual wars and intestine dissensions.

It is the habit of a decaying language to hide itself, as it were, in nooks and corners, while the advancing tide of the victorious tongue sweeps round it; or to continue to exist among the commonality, while the upper and more energetic classes, those who stir and push and make history, show no sign of its existence. Thus Chaucer's Skipper of Dartmouth speaks English like the rest of his company; one would never imagine from any hint given by Chaucer, that Cornish was spoken in South Devon for two centuries afterwards.

Still, I was surprised when Dr. Christison pointed out to me the passage in Burt's Letters, in which he says that he had been informed that, before the Union, Irish (*i.e.*, Gaelic) had been the language of Fife; and that after the Union it became one condition of the indenture, when a youth from Fife was to be bound on the Edinburgh side of the water, that the apprentice should be taught "the English tongue." But Jamieson, in a note to the fifth edition of Burt, says there is no reason to suppose that in Fife any Keltic dialect had been used, during the last five centuries, that would have been intelligible to an Irishman. That Gaelic

lingered long behind the Ochills, in Strathallan, I could well believe: the population there is physically much more Gaelic; and in the thirteenth century, since which there have been no great changes of population, the personal names in a perambulation of Wester Fedale, near Auchterarder, were almost all Gaelic. But with regard to Fife, I am disposed to think Burt was hoaxed, or that he misunderstood his informants.

The proof, could it be had, that Gaelic had lingered long in a particular locality would by no means show that the proportion of Gaelic blood there is particularly large. I have said that the Strathallan people were largely pre-Saxon. They are very generally dark haired, and their features correspond to their colour: yet their forefathers have spoken English for generations, though with a Gaelic accent. The people of Keith and Huntly speak English; but dark colours prevail among them, which is not the case in the lower ground of Moray on the one side, or of Aberdeenshire on the other; and I believe them to be mainly of Pictish extraction. The people of the Ness, in the north of the Long Island, have spoken Gaelic from time immemorial; but those who have seen them (I regret that I have not) with one consent declare them to be pure Norsemen; and I can testify that even south of them, at Stornoway, the strength of the Scandinavian types is remarkable. Whether Norse was ever the language of the commonality in the Hebrides is very doubtful. Captain Thomas thought it was. Quoting Vigfusson, he tells us that

the poems of Orm of Barra formed part of the entertainment at a banquet in Iceland, 1120. The most I should infer would be that the islanders were bilingual in the same way in which England was bilingual in the twelfth century, or in which Wales and the Highlands are bilingual to-day, while we read and admire the poems of the Welshman William Morris.

Some of those migrations which have most effect on physical type do not necessarily affect the language: this may be the case where they are gradual and long persistent, so that the speakers of the original tongue are able to assimilate successive generations of new-comers.

In attempting to analyse anthropologically the population of Scotland, one is met with a difficulty common to several countries in Western Europe—England, Ireland, Spain, Portugal, Sardinia, Sicily. Almost all the elements are long-headed, and therefore our readiest test, except that of colour, almost fails us. It is the one of which I have made most use in these lectures, as being the most accessible, and as having been so much developed as to yield an enormous mass of data; but, as will have been gathered, I think its special importance has been a little exaggerated. A brachykephalic—short-headed—element no doubt entered Scotland during the period of bronze; and, as I have already stated, I think it probable that a Mongoloid race may have been amongst the earliest occupants of the country; but neither of them is largely represented nowadays, at least not in the material I have collected. The

former of these should be found especially in the Brythonic, the latter in the Pictish districts. Mediæval skulls are generally neglected, to the detriment of ethnological history. But Sir Daniel Wilson measured 12, mostly from Edinburgh, and found a breadth-index of 78·6, which is rather high for these islands. The number is too small to allow for any confident deduction, but the width is greater, and most of the other measurements less, than in the series of what he calls Keltic (let us read Gaelic) skulls, with which he compares them. Of these latter, by the way, several are from Iona,¹ and it may be worth while to note again how often finely developed skulls are discovered in the graveyards of old monasteries, and how likely seems Galton's conjecture, that progress was arrested in the Middle Ages, because the celibacy of the clergy brought about the extinction of the best strains of blood.

There are not so many modern Scottish crania in collections as one could wish. Those that were available were, I imagine, almost all made use of by Principal Sir William Turner in his most valuable *Contribution to the Craniology of the People of Scotland*, which is likely to remain the standard work on the subject. It includes descriptions of 176, for the most part, tolerably perfect crania, most of which may be said to be modern, though some are mediæval. The most interesting point brought out by Sir William is the frequent occurrence of brachycephaly among the upper or educated

¹ Average index of 5, 76·8.

classes, to which most of his material probably belonged. This applies especially to Fife, to East Lothian, and to other parts of the Eastern Lowlands, but not to the West of Scotland. Thus:—

Locality.		Number.		Cranial Index.
N. E. Lowlands, ...	...	6	...	81·8
E. Lothian, ...	...	15	...	79·7
Fife, ...	...	16	...	79·25
Midlothian, ...	...	59	...	77·3
Renfrewshire, ...	...	21	...	75·7
Highlands and Isles, ...	...	13	...	74·1

But it may serve our purpose to divide the Midlothian skulls into two categories, 32 from the towns of Edinburgh and Leith would yield a breadth-index of 78·4, while 14 from a coast village (not further described) would give 76·1, 13 from rural districts, 75·1, and the whole 27 extraurban skulls, 75·6, not much beyond the limit of pure dolichocephaly.

The elaborate investigation of the asylum population of Scotland, which we owe to Mr. Tocher, may help us in the appreciation of these facts, though of course there may be a little hazard in extending an argument or a conclusion from the insane to the sane. Among the particulars obtained by Mr. Tocher was the kephalic index for all the individuals observed, and of course the mean thereof for each district asylum. He found an index of 78, or higher, in the whole north and north-east beyond the Tay and the Grampians, one below 77 in Argyll, and intermediate ones in the remainder of Scotland, including Fife and the Lothians.

I have extracted from Mr. Tocher's figures (corrected as usual for the skull¹) the proportions of true brachycephali (80 or more), in several of the asylums. They run as follows:—

Argyll, ...	... 1·6	Roxburgh, ...	3·6
Fife, ...	... 4·5	Ayr, ...	4·8
E. Lothian, ...	4·9	Edinburgh ...	5·1
Paisley, ...	5·35	Dumfries, ...	5·9
Midlothian, ...	6·5	Inverness, ...	7·2
Aberdeen, ...	7·11	Moray, ...	11·2
Banff, ...	12·	Montrose, &c.,	15·7

and seem to exhibit his results in a very striking form, and to accord generally with Sir William Turner—but not in the details relating to Fife and East Lothian, nor to the distinction between Edinburgh and its rural surroundings.

Sir William attributes most of the material in question to the upper or educated classes, and though chiefly modern, it is contemporary.

Was there perchance anything in the environment, say in the eighteenth century or thereabout, to affect the forms? It is not likely. Deformations may be and are practised by nurses and midwives which escape the notice of the scientific observer; thus, in mid-Germany, the cradleboard is responsible for much of the brachycephaly. But there is no

¹That is, I have subtracted 2 degrees in every case. In my own opinion, however, this is too much in the case of brachycephali; so that I may have understated the proportion of short-heads. Mr. Tocher's figures seem to confirm Sir William Turner's remark that in Scotland the short have generally smaller capacities than the long-heads.

trace of anything of that sort in the beautifully figured crania in Sir William Turner's memoir. There are other factors in the question which are just conceivable, but that is all.

I have a few observations of my own, or undertaken at my instigation by the late Mr. Hector Maclean, which do not yield much support to the idea that Scottish heads are growing wider. I will give them as corrected for comparison with the dry skull, as mentioned in the note on the preceding page.

88 Isla men, by Hector Maclean,	-	77·3
28 Colonsay, do. do.,	-	75·2
18 Eyemouth and Burnmouth, J. B.,		74·7
12 Berwickshire, inland, J. B.,	- -	75·9
55 Highlanders, various, J. B.,	- -	74·2
40 Educated Scotchmen, J. B.,	- -	75·3
20 Other do. do., J. B.,	- -	75·5
22 Scotchmen of superior intellectual distinction,	- - - -	75·44
50 Others, mostly upper class,	- -	75·67

The relative breadth, it will be observed, is small, smaller than in almost any part of the continent of Europe. On the other hand, the absolute length is great, greater indeed than I have found anywhere else, except in Hanover and East Friesland, and it is this which makes the breadth appear small: the circumference again is large in all, though inferior to that of the Hanoverians. There are certain differences between the four classes of Scotchmen: thus the Berwickshire peasants seem to have slightly

smaller heads than the fishermen (the contrary is said to be the case further north on the east coast): the Berwickshire fishermen have slightly less prominent brows, their heads are a trifle more lofty, the frontal region rather more developed, and the whole base of the brain rather broader than in the Highlanders. The educated Scotchmen, who were nowise selected, except for hereditary or personal intellectual distinction, and who came from all parts of the country, including the Highlands, agreed more with the Berwickshire fishermen in their proportions, but their foreheads are generally broader and their heads loftier.

In the 22 of intellectual distinction these differences were generally more marked, and the average size of the heads was distinctly greater; but it will be observed that the index of breadth is much the same.

Here I must break off for a while to speak of the extensive and laborious contributions to our knowledge of human coloration in Scotland which we owe to Messrs. John Gray and Tocher, and which they have made since these lectures were delivered. They cannot, unfortunately, be very profitably compared with my own contribution to Scottish ethnology, as they were made fifty years later, during which period it is quite possible that even changes of type may have resulted from the en-bonization of the population and from other social changes. Moreover my work was concerned with adults and with certain localities selected indeed but somewhat casually so, while theirs had to do

with children, extended to the whole of Scotland, with small exceptions, and was carried on systematically and officially. One point of superiority however remains to me: all my observations were made with my own eyes, so that the troublesome personal equation was eliminated, and I suspect that many of the Scottish schoolmasters were disposed to see a good deal of dark hair, as it is apt to be the case among a blond people.

On the whole Messrs. Gray and Tocher's facts corroborate my conjectures, though not always in particular localities. They show a fair race-type on the Borders, a dark-haired and light-eyed one in the Gaelic-speaking west and north-west, and among the Picts of Galloway, and a comparative absence of dark and black hair among the eastern Lowlanders, within reach of colonization from the continental Teutons. Mr. Gray is disposed to think the characteristics of these last may represent to a notable extent those of the Picts. Some peculiarities in dialect, such as the use of F for WH, favour this view; but to me the higher kephalic index and the general aspect of the people, as well as the prevailing surnames, seem to indicate the peaceful infiltration of Teutonic settlers from the Continent, with just a sufficient leaven of Anglo-Saxons to make their language predominant. Galloway was not always under Pictish rule during the dark ages: there was a notable period of Anglian domination; but the Picts survived there *eo nomine*, longer than anywhere else, being notoriously conspicuous at the battle of the Standard; and what little evidence we

can get from Sir William Turner¹ or elsewhere leads one to think that a low kephalic index prevails among their descendants.

To return; in colour, which I consider very important as a race-test, the difference between Eyemouth and Ballachulish is very great, almost as great, perhaps, as between any two districts in the country. The proportions of light and of dark eyes are not very different, it is true; but the neutral eyes are generally light hazel or hazel-grey in Eyemouth, but dark grey is Ballachulish. Black hair is quite rare at Eyemouth, and among the Berwickshire peasants of pure breed it hardly ever occurs; but at Ballachulish it is in the proportion of 10 per cent., and often occurs with blue or dark grey eyes. Altogether the hair is more coloured there, more pigmented; thus the blond hair (which is not uncommon at Ballachulish, notwithstanding the pronounced tendency to blackness), is more apt to be yellow, while in Berwickshire it often tends to a flaxen hue, which means deficiency in colouring matter. How far this has to do with differences in the atmospheric moisture, or how far it is due to peculiarities fixed in the race, may be questioned: on the whole it seems probable that red and yellow pigment were originally developed copiously in a moist atmosphere, but that the tendency to their production is now completely fixed.

The Berwickshire people are mainly Anglian by race: it is probable that the British inhabitants were

¹ He figures a distinctly Gaelic type of skull.

pretty completely expelled at the time of the Anglian conquest. Some Danish and Norse blood was introduced under Malcolm Ceanmohr—later changes have not been great, though of course there has been a slow infiltration of the general Scottish population. I will give you an example of such immigration from a tombstone in Foulden churchyard, on which I have more than once enacted "Old Mortality." "HERE LIETH ANE HONOURABLE MAN, GEORGE RAMSAY IN FOULDEN BASTEL. . . .

" Fife fostering peace me bred
 From thence the Merse me called,
 The Merse to Mars his lawys led,
 To bide his battles bauld.
 Wearied with toil, and sore opprest,
 Death gave to Mars the foil,
 And now I have more quiet rest
 Than in my native soil.
 Fife, Forth, Mars, Mort, these fatal four
 All hale my life hath driven o'er."

There is every agency present in Berwickshire which might be expected to develop or maintain a fine type of man. The original stock was tall, handsome, and vigorous; subsequent crosses have been made by energetic immigrants; natural selection may have assisted during centuries of border warfare; there are no manufactories in the district, or hardly any; finally, the soil is rich and fertile, if that has anything to do with it; and a somewhat harsh and cold climate probably weeds out weakly people. Accordingly the men of the Merse are among the finest in Britain. Probably the average stature is about 5 feet 9 inches (1752 millimeters);

the fishermen are not so tall as the peasantry, but 25 of the latter, of pure local descent, who were measured and weighed by Dr. Charles Stewart of Chirnside, yielded the remarkable average of 5 feet 10½ inches in stature, and 199 pounds in weight.¹ Here the weight exceeds, though the stature falls short of, the huge proportions of the men of Balmaclellan in Upper Galloway, who as yet, I believe, hold the record as to stature among all tested communities in Europe. The majority of the Merse men have straight profiles, long heads and faces, prominent occiputs, cheekbones and brows not conspicuous, noses nearly straight, fair complexion, blue or grey eyes, and lightish brown hair.

Of the Ballachulish people it would be more difficult to give a good description. They are much less homogeneous in form and colour. Though there has been little immigration for the last few centuries, except of Highlanders, there are various traditions of old dealings with the Norwegians. The Macdonalds of Glencoe had been islesmen, and a sept called Henderson are said to have preceded them. On the whole, however, the probable elements of importance are Iberian (Pictish?) and Scotie (shall we say Keltiberian or Galato-Iberian?): there is little sign of more primitive races. A long-headed dark race has been crossed by a long-headed fair one, and the latter has been a little reinforced by the Norsemen; a new type has been established, but imperfectly, and reversions are frequent. The moral character, the speech and manners, more than

¹ 86 millimeters and about 84 kilogrammes, naked weight.

the complexion, or the characteristic forms of the level brows and of the lower jaw, make me inclined to think that the Iberian preponderates over the Gael and the Goth.

For physical descriptions of the Highlander I must refer to the papers Sir Arthur Mitchell, Captain Thomas, and Mr. Hector Maclean of Ballygrant. All had paid much attention to the subject, and their conclusions do not differ much. All agree as to the importance of the Iberian, or as some call it, Spanish element. As to a Finnish one they are less clear, but all acknowledge it to some extent. I believe it to be rather considerable in Scotland; it may possibly have been brought in by the Norwegians, and this is quite likely as regards the dark, flat-faced, almond-eyed folk who occur in Shetland and about Barvas in the Lewis; but its general distribution in Scotland, and its frequent occurrence in Wales, make me think it of far older date in Britain than the Norse invasions.

The Brythonic element is not, I think, at all strong or conspicuous in the Western Highlands, though it may be in Perthshire. The parts of Scotland in which one would look for it with most confidence are those where the Strathclyde-Welshmen longest retained their power, the districts adjoining the long range of hills and moorlands that runs from the heads of the Clyde and the Annan along the west of Lanarkshire into Renfrewshire. These would include Upper Nithsdale, Upper Galloway, Kyle, perhaps also Cunningham and Renfrewshire; but of these last I have no personal

knowledge. What seems most notable in the people thereabout, are the very tall stature and the prevalence on the whole of dark hair. The schedule from the parish of Balmaclellan, to which I referred just now, which was published in my work on Stature and Bulk, and which I owed to Sir Arthur Mitchell and the Reverend George Murray, exhibited both these characteristics in a high degree.¹ I regret that I cannot say anything about the head-form, which, if known, might enable one to speak more confidently of their racial origin. But I incline to think there is in them a large element of the same kind that we usually find in round barrows and with bronze objects—the race that was once dominant over the greater part of the British Isles, and whose tall stature and bony angular features are here reproduced. I do not know how long the Brythonic language lingered hereabout, but there is a little testimony to its long continuance which may never have struck you, though it occurs in a well-known Scotch ballad.

“An’ they hae had him to the *wan* water,
For a’ men call it *Clyde*.”

Why did they call it Clyde? Clyde in Welsh, is pale grey. Lloyd, the personal name so common in Wales, means “grey.” Evidently the man who composed that pathetic ballad knew the Kymric tongue, or how should he have known that Clyde meant the “wan” water, the pale grey water.

¹ The average stature of the 75 men measured was 5 feet 10·46 inches, or 1790 millimeters; but 14 who had black hair attained an average of 1812 millimeters.

II.

We have now traced down the history of Europe, so far as it can be done within a very limited space, from the earliest known vestiges of man down to the present day; and in all its principal divisions. We have seen that while the craniological record of prehistoric ages is very insufficient, and for large portions of Europe non-existent, such evidence as we yet possess goes to shew that the dolichocephalic was in the earliest ages the prevailing, and perhaps the only type of man; but that there were possibly two varieties of it. Its extreme forms seem to have been connected with early ossification of the sutures.

That brachycephali do, however, appear in the quaternary period, sometimes accompanying long-heads, sometimes separately. Where they occur conjunctively they do not give one the impression of being mere aberrations or of pathological origin, as from rickets or hydrokephalus: and in the latter part of the quaternary period they may be provisionally accepted as at least tribal types.

In the neolithic period we find them constituting in France an important and aggressive race: they mix with and overpower the long-headed type: they appear in the Swiss pile-villages and about the Alps, and may be conjectured to have existed in mass much further east; but of this there is little or no positive evidence until later, in the early iron age, though in the age of bronze they conquered most part of the British Isles; and though there is some reason to think that at a very early period a broad-headed

race was represented in Scandinavia. As the north becomes peopled, the vigorous race which fills it sends off swarms to the south and south-east; and this progress continues until it is temporarily arrested by the consolidation of the Roman empire. After the Roman dominion has passed away, we find that the northern longheads push southwards at the expense of the brachykephals, whom, however, they rather overlie than press backwards. Soon, however, the opposite movement begins anew, and is supported to some extent by the invasions of the Turanian type from Asia, but chiefly by the great spread of the Slavonic peoples, at the expense of the long-headed Germans and of the Ugrian tribes, who were at most of mixed type. The Illyrian race has meanwhile been invading the area of the Mediterranean longheads, and the Kelts may have done the same to a less extent.

The next result is that we have now three cranio-metrical, if not racial, areas in Europe, without counting the Lapps and Finns as a second brachykephalic mass, in which case we shall have four such areas. Roughly speaking, the broadheads occupy most of the mountain regions of Europe, with the adjacent territories, to wit, the central hills of Bretagne, the Cevennes, the Vosges, the Ardennes, the Jura, both Swiss and German, the Alps in their whole extent, the Pindus, and probably the whole Carpathian system with its western prolongations: also the plains of Poland and Southern and Central Russia, where the boundary to the north becomes blurred and indistinct.

The northern or blond long-heads occupy the regions north of those already mentioned, except the area of the Lapps, the Quæns, and the Karelian and Tavastian Finns, who are all brachycephalic, the first remarkably so. The Tavastians at least, though broad-headed, are a blond people. There is a brachycephalic spot on the south-west coast of Norway, which may be primitive, and another on the isles of the Scheldt and Meuse. The Southern or Mediterranean longheads, including the Pyrenees and all to the south of them, part of Western France, the coast of Liguria, apparently, Corsica, Sardinia, Sicily and Southern Italy. To these may be added parts of Greece and of the Greek islands, and of Bulgaria; but the connection of blood is doubtful in the former case, and non-existent in the second, the dolichocephalic elements in Bulgaria being Ugrian, or possibly in part Thracian.

Now has this great extension of the brachycephalic area been wholly due to conquest or colonization? or to the different moral qualities or greater fertility or hardihood of the breed? or to any influences tending to actually change the type, which might be intrinsic (elevating or civilizing) or extrinsic, such as the hypothetical influence of mountain habitation might be, according to Ranke? There is a collateral problem involved with this, that of the supposed increasing prevalence of dark hair in Europe, particularly in areas formerly occupied by blonds, and the causes of it, if the supposition be correct. For there is no doubt that on the whole, in the northern and central latitudes of Europe, the

longhead and the blond coloration, the broadhead and brunette coloration, go together. This is the rule, but exceptions are very numerous and extensive: thus in the island of Islay and in the west of England, Mr. Maclean and I have found the rule to be reversed.¹

With respect to stature, the rule is still more liable to exception. The blond dolichoid race, as a *race*, is much taller than the Slavokeltic one; and the latter is thicker of make and heavier in proportion, but that is almost all that can be said with confidence. The bronze race of brachykephals in England was remarkably tall, and the tallest men in Britain are found in a comparatively dark-haired area.

To return to the problems stated. There is much more evidence which could be brought to bear on them than I have been able to put before you in these lectures. I think I just mentioned the increase of size in the heads of Parisians, a change not accompanied apparently by any increase in maximum breadth, but depending purely on an enlargement of the frontal lobe. Even this may be due simply to a gradual process of selection; the cleverer people in all ranks, that is, those with frontal lobes developed beyond the average, having been attracted to the centre of progress and the goal of ambition, in larger number than their fellows.

¹ It is fair to note that in Western Britain we have to deal with remains of the southern, or dark, as well as of the northern or fair dolichocephals.

The extraordinary change which has apparently taken place in southern Germany, and of which I gave some details when speaking of that country, admits of several partial explanations, no one of which, however, is *per se* satisfactory. Thus the general exclusion of the serfs from the burying-grounds of their masters, in the days of grave-row interment, must be allowed; but it is strange that it would seem to have continued even after the introduction and prevalence of Christianity.

Von Hölder lays great stress on the wars of the old Swabians and Bavarians with the Slavs, Avars and Magyars, to the east of them, and on the vast numbers of prisoners taken at these wars, whom he believes to have settled on the lands of their captors. Moreover, while land was more abundant than hands to till it, and while agriculture was, more or less, despised as an occupation by warriors, fugitive or converted foreigners were placed by nobles and churchmen on their domains. There is clear evidence of this having taken place in Thuringia. It would be strange, perhaps, if the descendants of the captive serfs should be found to have outstripped those of the captors and now to outnumber them. But it would be by no means impossible. The negro population constitutes the majority in most parts of the West Indies, and bids fair to crowd out the other races there; yet it was introduced in the same way; it is the progeny of foreign captives brought in to till the soil for a dominant race or caste.

With regard to colour, the question of its change-

ability is much increased in difficulty by the fact that the blond complexion has throughout all historical time, and in most parts of Europe, been the one most admired, while the red, the brown, and the black, though they have all had their local seasons of favour or fashion, have on the whole been the less thought of and less spoken of, especially by the poets, from Homer downwards. The inferences to be drawn from the mention of a particular complexion are not always clear. If it were universal, it would probably never be mentioned. Even if very common, it would probably not be extolled, one would think; yet the Chinese call themselves "the black-haired nation," and the Brahmins would marry only black-haired women, when other colours were rare; and Souvestre says, reddish hair is disliked among the Bretons. But the rule is, perhaps, that the uncommon is prized as well as conspicuous.

"Beautiful exceedingly,
Like a ladye from a far countrie,"

says Coleridge of Christobel.

Good observers have said that all the Oriental Jews are red-haired,¹ whereas it is only a few of them who are so. Some will tell you that most Scotch people are red-haired. The Chinese say we Britons are all so. The French in general think the French of the north are blond; we, being ourselves very largely fair, think the northern French dark.

¹ Sir Gardiner Wilkinson, for example.

Instances of this kind might be multiplied. Again, a favoured colour is imitated. Perhaps the Romans, when describing their northern neighbours, ought more often to have said "rutilatæ," "raddled," instead of "rutilæ," "red." The blond locks that the great Venetian limners painted, were, we know, decolorised by art, like those of some contemporary damsels. On the whole, then, I distrust or discount much of what old writers said about the fair or red hair of the ancient inhabitants of Europe. Still, there is some pretty strong evidence of change. Such is that derivable from the colour statistics of Virchow and G. Mayr, and from my own, as to the greater proportion of dark eyes and hair in cities.

From Virchow we have the proportion borne by brown-haired children to the blond-haired, and that of brown-eyed children to the blue-eyed, for 33 cities of Germany, with the surrounding or neighbouring rural districts in every case available for comparison. Of these 33, in one the citizens are distinctly the lighter in both hair and eyes. This is Metz, and the phenomena are doubtless due to the recent addition of a large Germanic and comparatively blond element to the population of the city, while the rural population remains unchanged. Seven more cities show no considerable excess in either way over the country people, or an excess in one respect and a deficiency in the other. These are Wiesbaden (which has none of the unfavourable characteristics of a city), Ezberfeld, Crefeld and Barmen, which are quite modern towns of mushroom growth, where no new influences have had

time to work ; Bradenburg, Strasburg, and Halle, a small place. In the remaining 25, both eyes and hair are decidedly darker than in the surrounding country. Of these, in 5, viz., Potsdam, Erfurt, Trier, Aachen, and Stuttgard, the hair is more affected than the eyes; in two, Liegnitz and Dusseldorf, both are equally affected; and in the remaining 18 the eyes are proportionally more darkened than the hair, in comparison with the surrounding rural population.

The difference is most striking in the north-east, in Prussia proper: thus in Elbing the proportion of brown eyes to blue is in the city 74 to 100, in the surrounding country 31 only, a difference considerably more than double: the darkness of the hair is as 34 to 24. In the west, and still more in the south, where the rural population is darker, the phenomenon is less conspicuous. In Frankfort-on-the-Main, a very ancient city, it comes out strongly. There the figures stand thus:—

	To 100 Blond-haired. Brown-haired.	To 100 Blue-Eyed. Brown-Eyed.
Frankfort City, - -	51	152
Nassau Province, -	38	82

In Bavaria, 34 cities and towns, in 7 out of 8 provinces, are separated from the rural districts: many of these are quite small places. In 5 of these provinces the town scholars have more often dark hair than the country scholars; in Upper Bavaria the numbers are equal; in Lower Bavaria the citizen scholars come out fairest. In every one of the 7 provinces the citizen scholars have a larger

proportion of dark eyes. Curiously, they have not more of black hair, though of brown hair as compared with blond the excess is considerable. The figures are:—

			Blond Hair.	Brown.	Black.
Cities,	-	-	49	47	4
Rural districts,	-	-	55	40	5
			Light Eyes.	Dark Eyes.	
Cities,	-	-	63	37	
Rural districts,	-	-	67	33	

Here in Bavaria, as in Germany generally, the difference seems to disappear where the rural population is darkest. Lower Bavaria has the darkest people in all Germany.

Now let us compare our own country.

I have three sets of statistics which are relevant: two of my own observation, the other deduced from the military notices in the Hue and Cry relating to deserters, whose birthplaces are given. The same is the case in my own schedules from the West of England, but not in my other and larger report, which is therefore of much less value. I have framed an index system for the Hue and Cry statistics, representing greater depth of colour by an increasing figure, and these are the results for hair:—

	Index.					
London,	7·3	Middlesex, Kent, Surrey, Essex,	-	-	-	3·2
Brighton,	8·	Sussex,	-	-	-	3·
Bristol,	14·	Somerset and Gloucestershire,	-	-	-	8·7
Birmingham,	10·5	Warwickshire, Worcestershire, Staffordshire,	-	-	-	7·
Newcastle,	8·5	Northumberland,	-	-	-	4·7
Edinburgh,	7·4	Lothians (minus),	-	-	-	4·3
Glasgow,	13·7	All Scotland,	-	-	-	3·1

There is no exception here; but the eyes, which are not very carefully noted, seem to be much the same in town and country. In my own statistics for Great Britain, I am able in about 25 instances to separate town and country: in all these the hair of the inhabitants of cities was the darker, except (in England) in Shrewsbury, Hereford, Gloucester and Truro (all, you will observe, situated on the Welsh border or in Cornwall, where the general population is dark-haired), and in Scotland, in Aberdeen and Arbroath. I have not worked out the figures for the eyes; but in my schedule of natives of the West of England I have done so, with the result that in the larger towns dark eyes prevail. I have no doubt that this phenomenon, the greater darkness of both hair and eyes in citizens than in country-folk, is largely due to the perpetual immigration of dark-complexioned foreigners. In our own case, these are Frenchmen, Italians, converted Jews (who melt away into the general population), and Welshmen, and so-called Black Kelts, from the remote west of these islands. In the case of Germany, they come from France, from Italy, from the same Jewish source, and from Bohemia and neighbouring parts. But I doubt whether this, though a good explanation so far as it goes, is a sufficient one; and I am strongly disposed to see in the matter a case of natural selection, the blond children being, in my opinion, already expressed, often more difficult to rear amid the many unfavourable influences that accompany city life, while the blond adults, being of a more restless and adventurous tem-

perament, are more disposed to wander and to emigrate.

Since the above was written, Dr. Shrubbsall has proved that blond children in towns suffer more from rheumatism and throat affections than those of dark complexion, whose special weak points are not so liable to develop until comparatively late in life, and who, therefore, have a better chance of surviving to reproduce their species.

In fine, we have fairly satisfactory proof that under ordinary circumstances the physical characteristics of well-defined races of men, such as form, colour, and even size, are absolutely permanent; and that when we wish to find an explanation of such characteristics occurring in any particular locality, we should first "cher-cher la race." We must allow, however, that under a change of external circumstances natural selection may exert its influence to alter they type, and that conjugal, and what may be called social selection may also apparently modify it. Thirdly, the direct influences of external agencies, except upon the individual, and for his life only, is as yet unproven, though not by any means absolutely disproved.

III.

To what races or types, then, is the future to belong?

The northern dolichos at present multiply freely, and are actively engaged in colonizing the North American and Australian Continents, in which their type is now dominant. Whether it will long

continue to be so, may be doubted. There is in the colonists plenty of size, of vigour, of beauty, and of intellectual power; nevertheless, there are signs which lead some to doubt whether all these will be permanent. The birth-rate tends to decrease among the pure Anglo-Americans, while the French-Canadians, strongly crossed with native Indian blood, are multiplying with alarming rapidity; and the American military statistics seem, *primâ facie*, to indicate that the climate is less suitable to the blond than to the brunette.

And in Europe the brachycephals, and, what is nearly the same thing for us, the brunettes, have been shown to be gaining ground, in the west only insensibly, as it were by infection, but in the east, among the Slavs, with open certainty. Topinard, no admirer of the brachycephalic type, says in his latest work (*L'Homme dans la Nature*) that the day will come when it will be universal. The Mediterranean race has had its turn; it exhausted its energies long ago in the conquest of South America and "the Indies," and is now comparatively stagnant; but there are some signs, I think, of its future revival. But, of the increase of the Jews, at least, there can be no doubt whatever. There are no data to shew us whether of the two curiously discriminated Jewish types is gaining on the other; but I strongly suspect that it is the brachycephalic. However that may be, the Jews grow not only in number, living longer and dying less readily than the Gentiles among whom they dwell, but they are gradually attracting to themselves the whole move-

able wealth of the earth ; and wealth is power, and the world must move or halt as wealth bids it. It would be strange if, in spite of the community of religion and traditions and usages, there were not some moral or intellectual difference connected with the physical one between these two sections of the Hebrews. And I believe there is. The Sephardim, who have usually the rather small oval true Semitic type of head, are said to be somewhat looked up to by the Ashkenazim, who are mostly of the broad-headed type. And whatever may be the case at the present time, in past times it has been individuals from among the Sephardim who have distinguished themselves from the common herd of their fellow-believers, and that in ways more noble than that of money-making.

And so again with the two great races of northern and central Europe. De Candolle and De Lapouge will tell us that of men of genius, of originality, men who have made their mark in history, or literature, or science, and whose memory remains green among us, the majority have been born among the long-headed blonds, the Aryans, as most people incorrectly call them.

If we dot the map of Europe wherever a great man has been born, we shall find, say they, that the dots will cluster about an axis drawn from Edinburgh (mark that, ye Aberdonians, they do not say "from Aberdeen")—from Edinburgh to Switzerland. A subordinate line might be drawn, crossing the first, from Normandy to the Baltic; and there will

remain two or three independent blotches about the Garonne, the Rhone, and Upper Italy.

It is evident therefore, in spite of Schaffhausen,¹ that there is virtue in the long-headed stock, the stock which, as the Tanagra figures show us, predominated in the old Greeks. But its partizans go further, and say that men of genius not only arise among them, but are themselves, in majority, constituted like the stock amidst which they arise. And I incline to think they are right.

Dr. Venn has shewn, in the *Anthropological Transactions*, that at Cambridge the first-class men have proportionally longer as well as more capacious heads than the rest of the students. In our own islands, where the breadth of head varies locally but little, and its general form more decidedly, while the complexion varies very considerably, it is safe to say that men of distinction are in large proportion natives of the more blond areas. The east, north and south, surpass in this respect the centre and west. Conan Doyle, in a rather superficial examination, found that after Edinburgh and some other parts of Scotland not well defined, Hampshire and Suffolk, two somewhat despised Anglo-Saxon districts,² headed the list. And I may perhaps be allowed to quote myself on the same topic—"In opposition to the current opinion, it would seem that the Welsh rise most in commerce, the Scotch

¹ This illustrious anthropologist, so often referred to in these lectures, has died since they were delivered.

² "Hampshire hogs," and "Silly Suffolk" are proverbial.

coming after them, and the Irish nowhere. The people of Welsh descent and name hold their own fairly in science: the Scotch do more, the Irish less —(I am taking the English as the standard). But when one looks to the attainment of military or political distinction, the case is altered. Here the Scotchmen, and especially the Highlanders, bear away the palm; the Irish retrieve their position, and the Welsh are little heard of." If I were to hazard a guess, a thing I am not very fond of doing, I would say that among the longheads it is the wider, among the broadheads the longer, that more often rise to distinction. In each case the skull, while retaining its original general pattern, acquires an additional development in the direction in which it is most deficient. You may have two heads which give you about the same index in brutal figures, but in which the mode of development and the details of form are quite different. Thus, I am inclined to look on the old Roman head as a high type of longhead, widened in the temporal region.

If you want to have a disputed question put trenchantly, clearly, logically, and carried out to the bitter end, you must go to France to have it done; and in this particular case you may go to Obédenare to champion the broad, and to De Lapouge and De Candolle to sing the praise of the longhead. One would suppose, in listening to them, that the children of light were not more sharply discriminated from the children of darkness; only as to which is which they differ.

On the one hand, we are told that the long-suffering race, which desired to harm nobody, to rule over and tryannize over nobody, which asked only to be allowed to remain at peace in the land of its birth, and to labour and produce without interference from the brigands, the restless warriors and conquerors of the other race, but which hitherto has seldom had this modest privilege, now at last, in these latter days, begins to see a chance of its virtuous aspirations being realised. No longer will its youth, in the days to come, be torn from their homes and enrolled in armies to satisfy the greed for land and dominion of the long-headed barbarians; their undeniable valour will be exercised only in defence of their homes, and their patient industry and domestic affection, will be crowned with peace and plenty, with equality and fraternity.

On the other hand, we are told that in common schools in France, the long-headed children surpass the broad-headed ones; that the world owes far more to the Englishman, the Scotchman, and the Norman, than to the Kelt, the Rhætian, the Rouman or the Slav; and that it would simply stagnate and putrefy were the northern long-headed race to be nipped and checked in its development, for the source of originality, of genius, of inventiveness, of the spirit of travel and of adventure, would be cut off. "Better fifty years of Europe," they say in effect, "than a cycle of Cathay."

These ideas are extreme, of course. No people in homogeneous, or has an absolute monopoly of

any particular endowment. The Alpine race are not always pacific or industrious; their ancestors apparently treated the primitive Iberians of France as badly as we treat the native Australians, and their stone arrows have been found sticking in the ribs of those unfortunate longheads. "Breton" (and most of the Bretons are of this race) was about the 14th century synonymous with "swashbuckler," and the Croats have not the reputation of law-abiding harmlessness. Still, certain qualities do adhere to certain races, and seem to be due greatly to their histories, traditions, and environments, the influence of their great writers, and so forth, but partly also to their physical conformation and hereditary constitution of brain. Scott has done something, no doubt, towards moulding the modern Scottish character; but then, he was himself the product of the Scottish border, and could not have been born anywhere else.

9 It is an invidious thing to draw national characters, and to point out their defects. But how seldom do the English produce a great orator, or the Irish a great engineer, or the Scotch a great actor, or the Welsh, though undeniably brave, a great soldier. The Spaniards have always been cruel, the French boastful, the Italians crafty and cunning, the English lovers of fair play, respecters of wealth, sufferers from "mauvaise haute." These points come out repeatedly in history. My audience laughed when they heard that the Little-Russians were "fond of greasy feeding and of music;" but we may look nearer home, and say the same of the Yorkshire

men. The love and skill for music go back in them at least 700 years; of the antiquity of the other characteristic I am not so sure; perhaps it is as old as the time of the "felon sow," when:—

"Ralph of Rokeby with good will
The friars of Rokeby gave her till,
Full well to gar them fare."

Or as that still more remote period when roast pork loomed so largely among the idle joys of the Vikings' Valhalla.

Finally, there are assuredly diversities of gifts pertaining to diverse breeds of men; and unless we are all reduced to the dull dead level of socialism, and perhaps even in that case, for the sake of relief, we shall continue to stand in need of all these gifts. Let us hope, then, that blue eyes, as well as brown eyes, will continue to beam on our descendants, and that heads will never come to be framed all upon one and the same pattern.

APPENDIX.

DESCRIPTION OF ILLUSTRATIONS.

Curves of Stature.

BERTILLON père discovered that the curve of stature of the conscripts of the department of the Doubs was bicipital, one of its equal peaks being at 164 centimeters and the other about 169·5. He attributed these facts to the presence of two incompletely amalgamated races, the Keltic and the Burgundian, the latter being the taller. On this hypothesis the Burgundians ought not, one would think, to have produced a peak in the curve equal to that due to the Kelts; for we know that they were not nearly so numerous (they took only one-third of the land from the natives). One may, however, suppose them reinforced in their influence on the stature by other tall tribes or immigrants, Germanic or Belgic. It was soon discovered that a somewhat similar bicipital curve occurred in the conscription lists of most of the north-eastern departments of France, all or almost all of which are inhabited by a comparatively tall breed of men.

A few years later, however, Ridolfo Livi demonstrated that the bicipital form of the curve in these cases was due to an arithmetical error, which naturally arose in the translation of Paris inches into centimeters, and to the natural, but unconscious, bias of observers and measurers for round numbers.

The presence of two races of differing stature, and not thoroughly amalgamated, does, however, tend to produce a broader, lower, and more extensive curve. Of this I have given some examples. In the Doubs and Ardennes the taller race-element (Galatic, Frank, or Burgundian) is tolerably strong, and pushes out the curve into a conspicuous shoulder, in the Marne this is not quite so noticeable: in France generally, including all the south and west, still less so; and in the Corrèze, a poor, hilly, moorland district, where the native short-statured brachykephal has been very little disturbed, it is not recognizable.

Curves of Cranial or Kephalic Index.

In these the influence of race or of hereditary type, is more distinct and undeniable than in those of stature, the latter being more liable to disturbing influences. But even in dealing with heads and skulls the cautions of Livi must be borne in mind, and something must be allowed for arithmetical vagaries, and, where the numbers dealt with are not great, for pure chance. One hundred is a number whence one may generally get a probably correct impression. Thus in Ranke's Franconian series one may be pretty confident that the lines indicate a Germanic dolicho and a Slavonic, Keltic or other brachykephalic element, and that the former as well as the latter is present in considerable force; but a larger number of examples is much to be desired. The two peaks among my 75 Munstermen are probably merely accidental. The second peak in Ranke's Chammünster men (at 85, 86) may or may not be significant. The long series of Swiss skulls which I have taken from Kollmann unites several races from the prehistoric ones down. In the

Swedish diagram, based on sufficiently large numbers, Dalarne (Dalecarlia) yields an almost absolutely symmetrical curve, indicating a pure Nordic or Suio Gothic race, but Lappland bulges to the broader side, owing to the presence of round-headed Lapps.

In the purely British diagram the curves of Devon and Wilts differ considerably. Wiltshire is notable for the complete or nearly complete absence of true brachykephals. It has a prolongation on the dolicho side rising to a peak at 72, which may perhaps be due to descendants and representatives of the denizens of our long barrows. For the Wiltshire population seem to be almost wholly Saxon or Iberian, with very little sign of French or Welsh invasion. Its average index is about 76·3. That of Devon is about 78·16; it is frankly mesokephalic, and may represent a population largely Brythonic. The 100 men of intellectual superiority give me a lower average (77·87), mesokephalic, but near the confines of dolichokephaly. Though generally (with many exceptions it is true), of larger size, in kephalic index they do not differ notably from the races to which they belong. The main body of the scheme represents the English and the Scotch generally: the secondary peak to the right may perhaps be due to the Norman, Huguenot and Welsh elements, not completely assimilated.

THE END.



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